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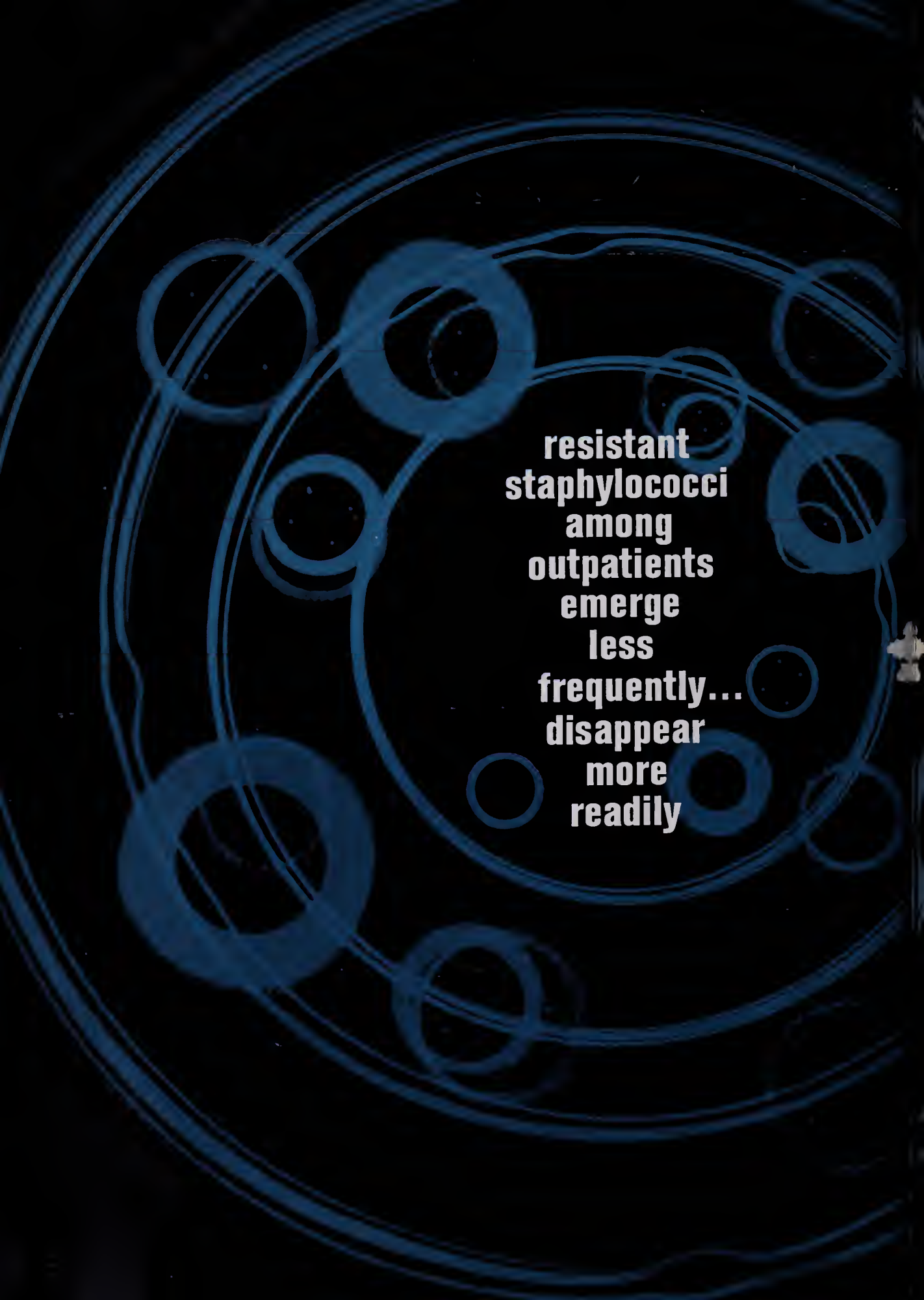
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References: (1) Bauer, A. W.; Perry, D. M., & Kirby, W. M. M.: *J.A.M.A.* 173:475, 1960. (2) Goslings, W. R. O., & Büchli, K.: *Arch. Int. Med.* 102:691, 1958. (3) Goodier, T. E. W., & Parry, W. R.: *Lancet* 1:356, 1959. (4) Fisher, M. W.: *Arch. Int. Med.* 105:413, 1960. (5) Petersdorf, R. G., *et al.*: *Arch. Int. Med.* 105:398, 1960. (6) Glas, W. W., in Symposium on Antibacterial Therapy, Michigan & Wayne County Acad. Gen. Pract., Detroit, September 12, 1959, p. 7. (7) Modarress, Y.; Ryan, R. J., & Francis, Sr. C. E: *J. M. Soc. New Jersey* 57:168, 1960. (8) Rebhan, A. W., & Edwards, H. E.: *Canad. M. A. J.* 82:513, 1960.

IN VITRO SENSITIVITY OF COAGULASE-POSITIVE STAPHYLOCOCCI TO CHLOROMYCETIN FROM 1955 TO 1959*

These sensitivity tests were done by the disc method on 310 strains of coagulase-positive staphylococci. Strains were isolated from patients seen in the emergency room. It should be noted that among inpatients, resistant strains were considerably more prevalent.

*Adapted from Bauer, Perry, & Kirby[1]

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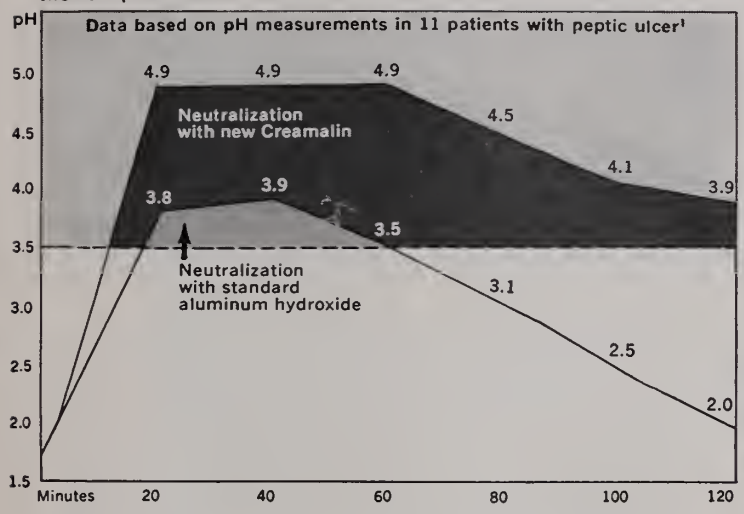

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1. Data in the files of the Department of Medical Research, Winthrop Laboratories. 2. Hinkel, E. T., Jr.; Fisher, M. P., and Tainter, M. L.: J. Am. Pharm. A. (Scient. Ed.) 48:384, July, 1959.

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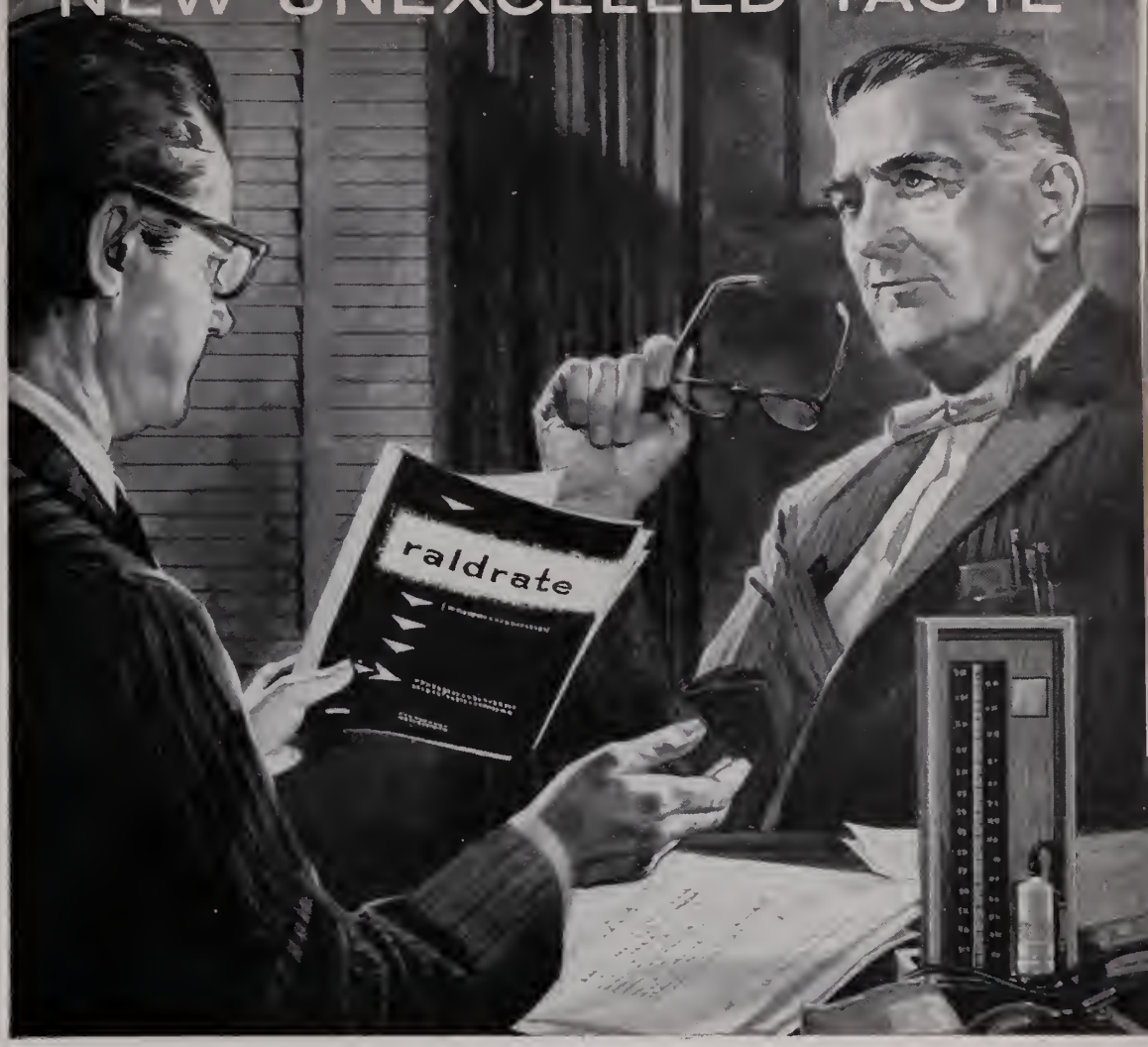

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DESCRIPTION

Staphcillin is a unique new synthetic parenteral penicillin produced by Bristol Laboratories for the specific treatment of staphylococcal infections due to resistant organisms. Its uniqueness resides in its property of resisting inactivation by staphylococcal penicillinase. It is active against strains of staphylococci which are resistant to other penicillins.

Each dry filled vial contains: 1 Gm. Staphcillin (sodium dimethoxyphenyl penicillin), equivalent to 900 mg. dimethoxyphenyl penicillin activity.

INDICATIONS

Staphcillin is recommended as specific therapy only in infections due to strains of staphylococci resistant to other penicillins, e.g.:

Skin and soft tissue infections: cellulitis, wound infections, carbuncles, pyoderma, furunculosis, lymphangitis and lymphadenitis.

Respiratory infections: staphylococcal lobar or bronchopneumonia, and lung abscesses combined with indicated surgical treatment.

Other infections: staphylococcal septicemia, bacteremia, acute or subacute endocarditis, acute osteomyelitis and enterocolitis.

Infections due to penicillin-sensitive staphylococci, streptococci, pneumococci and gonococci should be treated with Syncillin® or parenteral penicillin G rather than Staphcillin. Treponemal infections should be treated with parenteral penicillin G.

DOSAGE AND ADMINISTRATION

Staphcillin is well tolerated when given by deep intragluteal or intravenous injection.

As is the case with other antibiotics, the duration of therapy should be determined by the clinical and bacteriological response of the patient. Therapy should be continued for at least 48 hours after the patient has become afebrile, asymptomatic and cultures are negative. The usual duration has been 5-7 days.

Intramuscular route: The usual adult dose is 1 Gm. every 4 or 6 hours. Infants' and children's dosage is 25 mg. per Kg. (approximately 12 mg. per pound) every 6 hours.

Intravenous route: 1 Gm. every 6 hours using 50 ml. of sterile saline solution at the rate of 10 ml. per minute.

**Warning:* Solutions of Staphcillin and kanamycin should not be mixed, as they rapidly inactivate each other. Data on the results of mixing Staphcillin with other antibiotics are being accumulated.

DIRECTIONS FOR RECONSTITUTION

Add 1.5 ml. sterile distilled water or normal saline to a 1 Gm. vial and shake vigorously. Withdraw the clear, reconstituted solution (2.0 ml.) into a syringe and inject. The reconstituted solution contains 500 mg. of Staphcillin per ml. Reconstituted solutions are stable for 24 hours under refrigeration.

For intravenous use, dilute the reconstituted dose in 50 ml. of sterile saline and inject at the rate of 10 ml. per minute.

*This statement supersedes that in the Official Package Circulars dated September and/or October, 1960.

(continued)

MICROBIOLOGICAL AND PHARMACOLOGICAL PROPERTIES

In vitro studies show that STAPHCILLIN is a bactericidal penicillin with activity against staphylococci resistant to penicillin G. Strains of staphylococci so far tested have been sensitive to STAPHCILLIN *in vitro* at concentrations of 1-6 mcg. per ml. These levels are readily attained in the blood and tissues by administration of STAPHCILLIN at the recommended dosage. This unique attribute is probably due to the fact that STAPHCILLIN is stable in the presence of staphylococcal penicillinase. STAPHCILLIN also resists degradation by *B. cereus* penicillinase. The antimicrobial spectrum of STAPHCILLIN with regard to other microorganisms is qualitatively similar to that of penicillin G; but considerably higher concentrations of STAPHCILLIN are required for bactericidal activity than is the case with penicillin G.

STAPHCILLIN is rapidly absorbed after intramuscular injection. Peak blood levels (6-10 mcg./ml. on the average after a 1.0 Gm. dose) are attained within 1 hour; and then progressively decline to less than 1 mcg. over a 4 to 6 hour period. It is poorly absorbed from the gastrointestinal tract. STAPHCILLIN is rapidly excreted by the kidney.

As shown by animal studies, STAPHCILLIN is readily distributed in body tissues after intramuscular injection. Of the tissues studied, highest concentrations are reached in the kidney, liver, heart and lung in that order; the spleen and muscles show lower concentrations of the antibiotic. STAPHCILLIN diffuses into human pleural and prostatic fluids, but its diffusion into the spinal fluid has not yet been completely studied. However, one patient with meningitis showed a significant concentration in his spinal fluid while on STAPHCILLIN therapy.

Toxicity studies with STAPHCILLIN and penicillin G in animals show that they have approximately the same low order of toxicity.

Certain staphylococci can be made resistant to STAPHCILLIN in the laboratory, but this resistance is not related to their penicillinase production. During the clinical trials, no STAPHCILLIN-resistant strains of staphylococci were observed or developed; the possibility of the emergence of such strains in the clinical setting awaits further observation.

PRECAUTIONS

During the clinical trials, several mild skin reactions, e.g., itching, papular eruption and erythema were observed both during and after discontinuance of STAPHCILLIN therapy. Patients with histories of hay fever, asthma, urticaria and previous sensitivity to penicillin are more likely to react adversely to the penicillins. It is important that the possibility of penicillin anaphylaxis be kept in mind. Epinephrine and the usual adjuvants (antihistamines, corticosteroids) should be available for emergency treatment. Because of the resistance of STAPHCILLIN to destruction by penicillinase, parenteral *B. cereus* penicillinase may not be effective for the treatment of allergic reactions. Information with regard to cross-allergenicity between penicillin G, penicillin V, phenethicillin (Syncillin) and STAPHCILLIN is not available at present. If superinfection due to Gram-negative organisms or fungi occurs during STAPHCILLIN therapy, appropriate measures should be taken.

SUPPLY

List 79502 — 1.0 Gm. dry filled vial.

BRISTOL LABORATORIES • SYRACUSE, NEW YORK
Division of Bristol-Myers Company

CUT HERE FOR FILING

UNIQUE SYNTHETIC "STAPH-CIDAL" PENICILLIN

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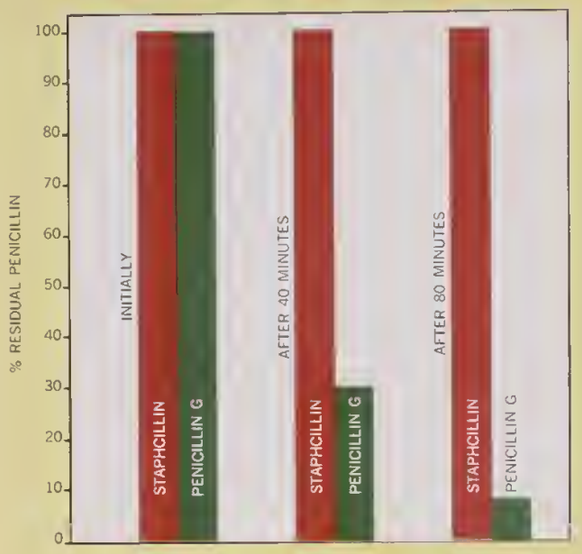


In the presence of staphylococcal penicillinase, STAPHCILLIN remained active and retained its antibacterial action. By contrast, penicillin G was rapidly destroyed in the same period of time. *(After Gourevitch et al., to be published)*

Specifically for "resistant" staph...

Staphcillin™

sodium dimethoxyphenyl penicillin
FOR INJECTION

The failure of staphylococcal infections to respond to penicillin therapy is attributed to the penicillin-destroying enzyme, penicillinase, produced by the invading staphylococcus.

Unlike other penicillins:

1 STAPHCILLIN is effective because it retains its antibacterial activity despite the presence of staphylococcal penicillinase.

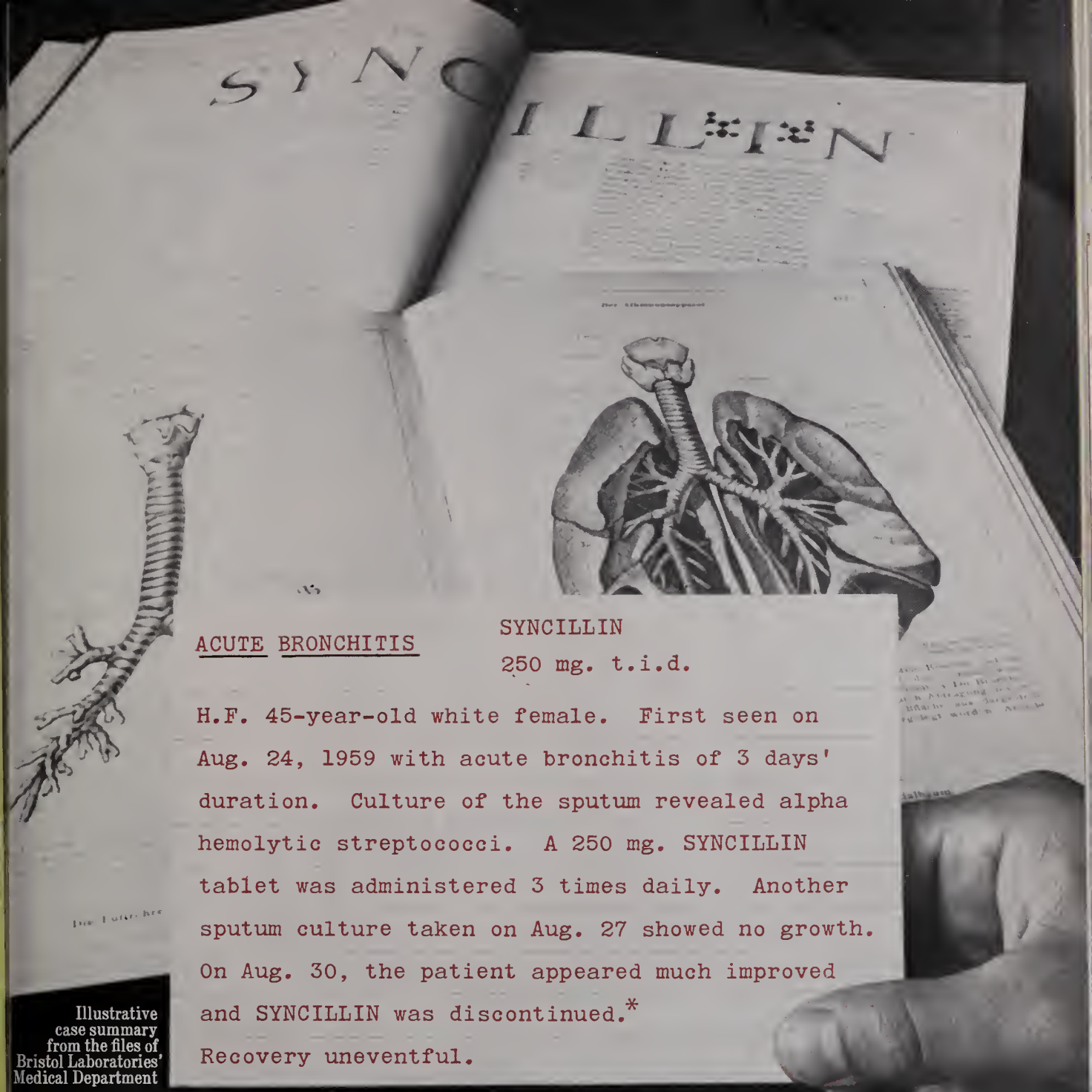
2 The clinical effectiveness of STAPHCILLIN has been confirmed by dramatic results in a wide variety of infections due to "resistant" staphylococci, many of which were serious and life-threatening.

Like other penicillins:

STAPHCILLIN has no significant systemic toxicity. It is well tolerated locally, and pain or irritation at the injection site is comparable to that following the injection of penicillin G. *In occasional cases, typical penicillin reactions may be experienced.*

PROFESSIONAL INFORMATION SERVICE — The attached Official Package Circular provides complete information on the indications, dosage, and precautions for the use of STAPHCILLIN. If you desire additional information concerning clinical experiences with STAPHCILLIN, the Medical Department of Bristol Laboratories is at your service. You may direct your inquiries via collect telephone call to New York, PLaza 7-7061, or by mail to Medical Department, Bristol Laboratories, 630 Fifth Ave., N. Y. 20, N. Y.

BRISTOL LABORATORIES • SYRACUSE, NEW YORK
Division of Bristol-Myers Company



Illustrative case summary from the files of Bristol Laboratories' Medical Department

THE ORIGINAL phenethicillin

SYNCILLIN®

(phenoxyethyl penicillin potassium)

FIRST SYNTHESIZED AND MADE AVAILABLE BY BRISTOL LABORATORIES

A dosage form to meet the individual requirements of patients of all ages in home, office, clinic, and hospital:
Syncillin Tablets—250 mg. (400,000 units)...Syncillin Tablets—125 mg. (200,000 units)
Syncillin for Oral Solution—60 ml. bottles—when reconstituted, 125 mg. (200,000 units) per 5 ml.
Syncillin Pediatric Drops—1.5 Gm. bottles. Calibrated dropper delivers 125 mg. (200,000 units)

*Streptococcal infections should be treated for at least 10 days to prevent the development of rheumatic fever and as prophylaxis against bacterial endocarditis in susceptible patients.

Complete information on indications, dosage and precautions is included in the circular accompanying each package.

BRISTOL LABORATORIES, Div. of Bristol-Myers Co., SYRACUSE, N.Y.

BRISTOL TM

RELIEVE ALL COMMON COLD SYMPTOMS AT ONCE

WITH

'EMPRAZIL'®

THE TOTAL COLD-THERAPY TABLET

nasal decongestant • analgesic antipyretic • antihistamine

The ingredients combined in each 'Emprazil' tablet provide multiple drug action for prompt symptomatic relief of aches, pains, fever and respiratory congestion—due to common colds, flu or grippe—without gastric irritation.

Dosage: Adults and older children—One or two tablets t.i.d. as required. Children 6 to 12 years of age—One tablet t.i.d. as required.

Supplied: Bottles of 100 or 1000

Each orange and yellow layered tablet contains:

'Sudafed'® brand Pseudoephedrine Hydrochloride	20 mg.
'Perazil'® brand Chlorcyclizine Hydrochloride	15 mg.
Acetophenetidin	150 mg.
Aspirin (Acetylsalicylic Acid)	200 mg.
Caffeine	30 mg.

Complete literature available on request.

BURROUGHS WELLCOME & CO.
(U.S.A.) INC., Tuckahoe, N. Y.

specific for tension headache...

FIORINAL®

relieves pain, muscle spasm, nervous tension

rapid action · non-narcotic · economical

"We have found caffeine, used in combination with acetylsalicylic acid, acetophenetidin, and isobutylallylbarbituric acid, [Fiorinal] to be one of the most effective medicaments for the symptomatic treatment of headache due to tension."

Friedman, A. P., and Merritt, H. H.: J.A.M.A. *163*:1111 (Mar. 30) 1957.

Available: Fiorinal Tablets and New Form — Fiorinal Capsules

Each contains: Sandoptal (Allylbarbituric Acid N.F. X) 50 mg. (3/4 gr.), caffeine 40 mg. (2/3 gr.), acetylsalicylic acid 200 mg. (3 gr.), acetophenetidin 130 mg. (2 gr.).

Dosage: 1 or 2 every four hours, according to need, up to 6 per day.

SANDOZ

"...extraordinarily effective diuretic..."[1]

Efficacy and expanding clinical use are making Naturetin the diuretic of choice in edema and hypertension. It maintains a favorable urinary sodium-potassium excretion ratio, retains a balanced electrolyte pattern, and causes a relatively small increase in the urinary pH.[2] More potent than other diuretics, Naturetin usually provides 18-hour diuretic action with just a single 5 mg. tablet per day — economical, once-a-day dosage for the patient. Naturetin c̄ K — for added protection in those special conditions predisposing to hypokalemia and for patients on long-term therapy.

Supplied: Naturetin Tablets, 5 mg., scored, and 2.5 mg. Naturetin c̄ K (5 c̄ 500) Tablets, capsule-shaped, containing 5 mg. benzydroflumethiazide and 500 mg. potassium chloride. Naturetin c̄ K (2.5 c̄ 500) Tablets, capsule-shaped, containing 2.5 mg. benzydroflumethiazide and 500 mg. potassium chloride. For complete information consult package circular or write Professional Service Dept., Squibb, 745 Fifth Avenue, New York 22, N. Y.

References: 1. David, N. A.; Porter, G. A., and Gray, R. H.: Monographs on Therapy 5:60 (Feb.) 1960. 2. Ford, R. V.: Current Therap. Res. 2:92 (Mar.) 1960.

Naturetin **Naturetin c̄ K** SQUIBB

Squibb Benzydroflumethiazide with Potassium Chloride

"NATURETIN" & K IS A SQUIBB TRADEMARK.

extends the range of decongestion in COLDS

usual medications act only here

NEW **isoclor** acts here to relieve both nasal and chest discomfort

NEW

isoclor™

TABLETS AND SYRUP

relieves both / upper respiratory congestion / bronchial congestion

- **effective** because d-isoephedrine combines both nasal and bronchial decongestant actions[1]—together with the histamine blocking action of chlorpheniramine.
- **fast** . . . clears air passages in 10-20 minutes. Relieves stuffiness, swelling, discharge. Prevents excessive post-nasal drip and resulting night cough.
- **safe** . . . Laboratory studies reveal little effect on CNS or pressor stimulation.[2] Minimal daytime drowsiness or interference with sleep.

1. Aviado, D. M. et al: J. Pharmacol. & Exper. Therap. 122: 406-417 (Mar.) 1958. 2. Laboratory Report: Research Div., Chas. C. Haskell & Co., 1959.

TABLETS AND SYRUP for adults and children . . .

COMPOSITION:	Per tablet	Per 5 ml. syrup
Chlorpheniramine maleate	4 mg.	2 mg.
d-Isoephedrine HCl	25 mg.	12.5 mg.

DOSE: Tablets: Adults: 1 tablet 3 or 4 times daily. Syrup: Children: 3-6 yrs. ½ tsp. t.i.d.; 6-12 yrs. 1 tsp. t.i.d. Adults: 2 tsp. t.i.d.

AVAILABLE: Tablets: Bottles of 100. Syrup: Pint bottles.

ARNAR-STONE
Laboratories, Inc.
Mt. Prospect, Illinois

Available only to physicians for their distribution—

Complete Cholesterol Depressant Menus and Recipe Book

A new, authoritative patient-aid . . . for professional distribution only

Now available for use in your practice from The Wesson People . . . easy-to-use manual of 40 pages, including all necessary diet instructions . . . menus, recipes, shopping and cooking guidance . . . all worked out for you . . . so arranged and printed that you have only to check the desired daily calorie level before giving the book to your patient.

You will find this book invaluable for treating patients with elevated serum cholesterol.

Complete menus for 10 days enable you to prescribe diets which are appetizing, nutritiously adequate and which can exert cholesterol depressant activity. Special attention has been given to constructing the menu patterns so that they adhere as closely as permissible to the patient's normal eating habits.

NRC Standards fulfilled. Each menu has been calculated to provide the proper daily allowance of proteins, vitamins and other nutrients as recommended by the Food and Nutrition Board of the National Research Council.

Weight control is achieved as each day's menu is given at 3 calorie levels—1200, 1800 and 2600 calories. You prescribe the level most desirable and modify as desired.

Variety and appetite appeal for patient are built into the menu plan to an extent not previously accomplished. Alternate choices for main dishes minimize monotony, encourage the patient to follow closely the menu plan you specify.

Complete recipes—65 in all—are included to assure that the specified menus provide prescribed levels of calories, the pre-determined ratio of poly-unsaturated to saturated fat, plus essential nutrients.

Dietary fat is controlled so that approximately 36% of the total calories are derived from fat and at least 40% of these fat calories are from poly-unsaturated components (linoleates) as found in pure vegetable oil. The replacement of saturated dietary fat by this percentage of poly-unsaturated fat has been found in clinical studies most effective in the reduction of serum cholesterol and in its maintenance at desirable levels. More liberal menus are provided for maintenance after the patient's progress indicates that desired therapeutic results have been accomplished.

Family meal preparation is simplified. The menus are planned around favorite foods having wide appetite appeal for all members of the household. Patients can entertain in comfort—enjoy cakes, cookies, snacks, prepared with recipes which meet medical requirements.

A high degree of satiety is achieved even at the lower calorie levels, because Wesson provides an unexcelled source of concentrated, slow-burning food energy.

Adaptable for use with diabetics. Carbohydrates have been calculated to fall within the acceptable range for patients to whom a diet planned for diabetes is important. Calories, which must be supplied from fat when the carbohydrate intake is limited, are provided by desirable poly-unsaturated vegetable oil.

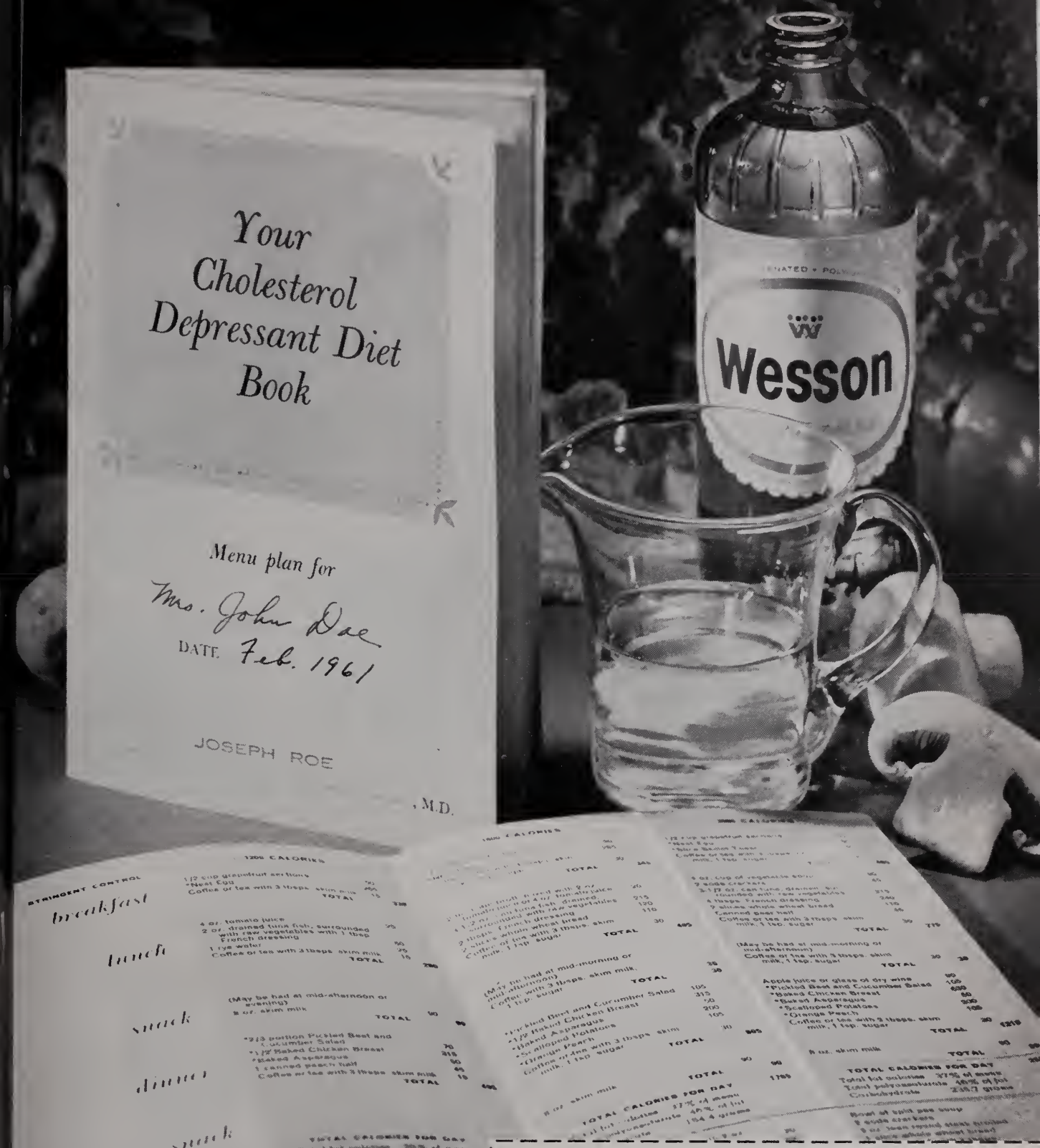
WESSON'S IMPORTANT CONSTITUENTS

Wesson is 100% cottonseed oil—winterized and of selected quality

Linoleic acid glycerides (poly-unsaturated)	50-55%
Oleic acid glycerides (mono-unsaturated)	16-20%
Total unsaturated	70-75%
Palmitic, stearic and myristic glycerides (saturated)	25-30%
Phytosterol (Predominantly beta sitosterol)	0.3-0.5%
Total tocopherols	0.09-0.12%

Never hydrogenated—completely salt free

Poly-unsaturated Wesson is unsurpassed by any readily available brand, where a vegetable (salad) oil is medically recommended for a cholesterol depressant regimen.



USE THIS HANDY ORDER FORM

The Wesson People, 210 Baronne St., New Orleans 12, La.

Please send_____free copies of
"Your Cholesterol Depressant Diet Cook Book" for use with patients.

DR._____

ADDRESS_____

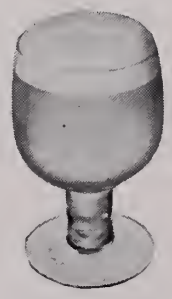
CITY_____ZONE_____STATE_____

Meal-in-a-glass: blender combinations offer rich variety!

The secret of a successful full-liquid diet is acceptance

The blender can produce foods for your patient's full-liquid diet that are nutritious, tempting and appealing to the eye. Milk blended with chicken or shrimp makes a tasty bisque. Strained meats can be beaten into tomato juice. To increase protein, add eggs to mixtures.

Suggest carrots blended with milk or broth. Cottage cheese whipped into chocolate milk is nourishing. Fruits blended into juices, garnished with soft sherbet are good desserts. Remember, appetizing appearance increases acceptance; serve liquids in colorful glasses, pretty cups, unusual mugs.



A glass of beer, with your approval, can be a most refreshing addition to your patient's diet.

United States Brewers Foundation

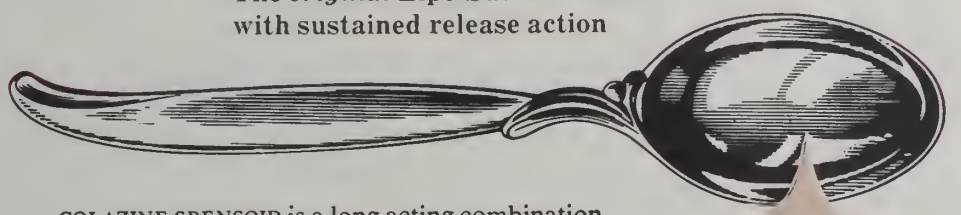
If you'd like reprints of this and 11 other different diet menus for your patients, write United States Brewers Foundation, 535 Fifth Avenue, N.Y. 17, N.Y.

12

FULL HOURS OF SULFA THERAPY *with only* 1 DOSE

COLAZINE® SPENSOID™

The *original* Lipo-Sulfa formula*
with sustained release action



COLAZINE SPENSOID is a long acting combination of the four most useful sulfonamides.
Provides rapid initial absorption.
Effective blood levels.
High urinary solubility.
Very low toxicity.

Each Teaspoonful (5 cc.) contains:
Sulfadiazine 0.125 Gm.,
Sulfamerazine 0.125 Gm.,
Sulfamethazine 0.125 Gm.,
Sulfacetamide 0.125 Gm.,
in a tasty cola flavored suspension.

DOSAGE: Children—1 teaspoonful (5 cc.) for each 10 lbs. of body weight (up to 80 lbs.) followed by one-half initial dose every 12 hours.
Adults—2 or 3 tablespoonfuls (30 to 45 cc.) followed by one-half initial dose every 12 hours.

QUICK ABSORPTION
SAFER, LESS TOXIC
LONGER ACTING
CONVENIENT b.i.d. DOSAGE
HIGHER BLOOD LEVELS

COLAZINE SPENSOID is available in bottles of 16 oz.

SAMPLES AND LITERATURE ON REQUEST

MAIL THIS HANDY REQUEST CARD FOR SAMPLES AND LITERATURE

Please send literature and professional samples as indicated.

☐ COLAZINE SPENSOID the b.i.d. sulfa
☐ NOVA-TUSSA For Coughs and Colds

NAME_____
ADDRESS_____
CITY_____Zone_____State_____
My Pharmacist's Name_____
Address

DRUG Specialties INC.

WINSTON-SALEM 1,
NORTH CAROLINA

pon courtesy of The International Silver Company

*Patent 2867565

FAST
PLEASANT
WAY TO

STOP COUGH

and Other Cold Symptoms

NOVA-TUSSA®

SYRUP

WORKS BETTER! TASTES BEST!

ANTITUSSIVE
EXPECTORANT
DECONGESTANT
ANTIHISTAMINIC

NOVA-TUSSA promptly checks coughs due to colds, bronchitis, allergies and other symptoms of upper respiratory infection.

Each fl. oz. (30 cc) contains: dihydrocodeinone bitartrate 10 mg. (Warning. May be habit forming.), pheniramine maleate 30 mg., pyrilamine maleate 30 mg., phenylephrine hydrochloride 30 mg., potassium guaiacolsulfonate 500 mg. Exempt Narcotic. Easy to take **delicious** cherry flavor.

Doses: Adults, 2 teaspoonfuls every 4-6 hours. Children over six 1 teaspoonful; 1-6 years ½ to 1 teaspoonful according to age. Do not repeat more than 4 times in 24 hrs.

Supply: NOVA-TUSSA in bottles of 1 pint and 1 gallon.

MAIL CARD FOR PROFESSIONAL SAMPLES AND LITERATURE.

Ideally suited for patients of all ages.

Postage Will be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD
FIRST CLASS PERMIT No. 290, Sec. 34.9, P. L. & R.
WINSTON-SALEM, N. C.

Drug Specialties, Inc.
P. O. BOX 830
WINSTON-SALEM, N. C.

DRUG Specialties INC.
WINSTON-SALEM 1, N.C.

if you're treating a coccal infection...

you can't prescribe a more effective antibiotic than

ERYTHROCIN

Erythromycin, Abbott

How much "spectrum" do you need in treating an infection? Clearly, you want an antibiotic that will show the greatest activity against the offending organism, *and the least activity against non-pathogenic gastro-intestinal flora.*

Weigh these criteria—and make this comparison—when treating your next coccal infection. Erythrocin is a medium-spectrum antibiotic, notably effective against gram-positive organisms. In this it comes close to being a "specific" for coccal infections—*which means it is delivering a high degree of activity against the majority of common infection-producing bacteria.*

And against many of the troublesome "staph" strains—a group which shows increasing resistance to penicillin and certain other antibiotics—Erythrocin continues to provide bactericidal activity. Yet, as potent as Erythrocin is, *it rarely has a disturbing effect on normal gastro-intestinal flora.* Comes in easy-to-swallow Filmtabs®, 100 and 250 mg. Usual adult dose is 250 mg. every six hours. Children, in proportion to age and weight. Won't you try Erythrocin?

®Filmtab—Film-sealed tablets, Abbott.

011297

ABBOTT

attains
sustains
retains

extra
antibiotic
activity

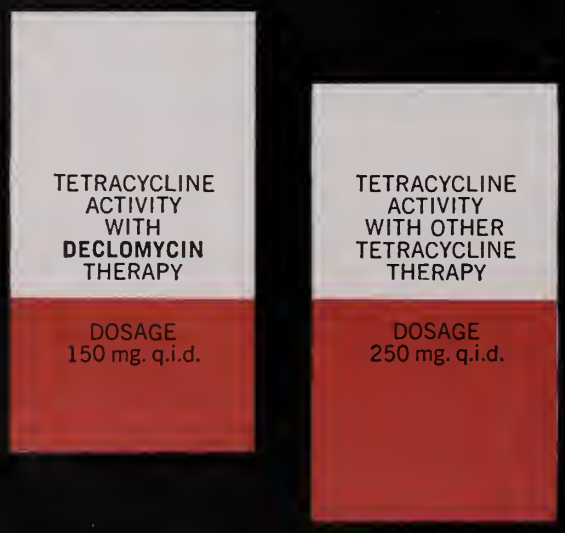
DEC

attains activity levels promptly

DECLOMYCIN Demethylchlortetracycline attains—usually within two hours—blood levels more than adequate to suppress susceptible pathogens—on daily dosages substantially lower than those required to elicit antibiotic activity of comparable intensity with other tetracyclines. The average, effective, adult daily dose of other tetracyclines is 1 Gm. With DECLOMYCIN, it is only 600 mg.

sustains activity levels evenly

DECLOMYCIN Demethylchlortetracycline sustains through the entire therapeutic course, the high activity levels needed to control the primary infection and to check secondary infection at the original—or another—site. This combined action is usually sustained without the pronounced hour-to-hour, dose-to-dose, peak-and-valley fluctuations which characterize other tetracyclines.



POSITIVE ANTIBACTERIAL ACTION

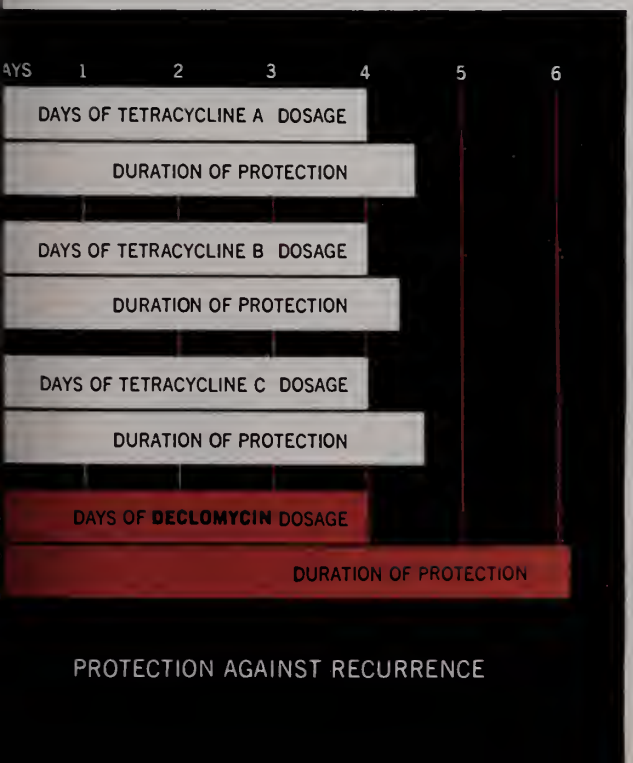
PROTECTION AGAINST PROBLEM PATHOGENS

LOMYCIN®

DEMETHYLCHLORTETRACYCLINE LEDERLE

etains activity
evels 24-48 hrs.

ECLOMYCIN Demethylchlortetracycline retains activity levels up to 48 hours after the last dose is iven. At least a full, extra day of positive action may hus be confidently expected. The average, daily adult osage for the average infection—1 capsule q.i.d.—s the same as with other tetracyclines...but **total** osage is lower and duration of action is longer.



CAPSULES, 150 mg., bottles of 16 and 100. **Dosage:** Average infections—1 capsule four times daily. Severe infections—Initial dose of 2 capsules, then 1 capsule every six hours.

PEDIATRIC DROPS, 60 mg./cc. in 10 cc. bottle with calibrated, plastic dropper. **Dosage:** 1 to 2 drops (3 to 6 mg.) per pound body weight per day—divided into 4 doses.

SYRUP, 75 mg./5 cc. teaspoonful (cherry-flavored), bottles of 2 and 16 fl. oz. **Dosage:** 3 to 6 mg. per pound body weight per day—divided into 4 doses.

PRECAUTIONS—As with other antibiotics, DECLOMYCIN may occasionally give rise to glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis or dermatitis. A photodynamic reaction to sunlight has been observed in a few patients on DECLOMYCIN. Although reversible by discontinuing therapy, patients should avoid exposure to intense sunlight. If adverse reaction or idiosyncrasy occurs, discontinue medication.

Overgrowth of nonsusceptible organisms is a possibility with DECLOMYCIN, as with other antibiotics. The patient should be kept under constant observation.

Lederle

LEDERLE LABORATORIES
A Division of
AMERICAN CYANAMID COMPANY
Pearl River, New York

NaClex®

benzthiazide

a new diuretic with an unsurpassed faculty for salt excretion

as salt goes, so goes edema

A basic principle of diuresis is that "increased urine volume and loss of body weight are proportional to and the osmotic consequences of loss of ions."[1]

Robins' new NaClex is a potent, oral, non-mercurial diuretic that helps reduce edema through the application of this fundamental principle. It limits the reabsorption of sodium and chloride in the renal proximal tubules (*with a relative sparing of potassium*). The body's homeostatic mechanism responds by increasing the excretion of excess extracellular water. Thus the NaClex-induced removal of salt leads to a reduction of edema.

a unique chemical structure

NaClex (benzthiazide) is a new molecule which provides a "pronounced increase in diuretic potency"[2] over its antecedent sulfonamide compound. Compared tablet for tablet with current oral diuretics, it is unsurpassed in diuretic potency.

twofold value

NaClex produces diuresis, weight loss, and symptomatic improvement in edema associated with various conditions. It also has antihypertensive properties and may be used alone in mild hypertension or with other antihypertensive drugs in severer cases.

For complete dosage schedules, precautions, or other information about NaClex, please consult basic literature, package insert, or your local Robins representative, or write to the A. H. Robins Co., Inc.

Supply: Yellow, scored 50 mg. tablets.

References: 1. Pitts, R. F., Am. J. Med., 24:745, 1958. 2. Ford, R. V., Cur. Therap. Res., 2:51, 1960.

A. H. ROBINS COMPANY, INC.
RICHMOND 20, VIRGINIA

Put your low-back patient back on the payroll

Soma relieves stiffness —stops pain, too

YOUR CONCERN: Rapid relief from pain for your patient. Get him back to his normal activity—and fast!

HOW SOMA HELPS: Soma provides direct pain relief while it relaxes muscle spasm.

YOUR RESULTS: With pain relieved, stiffness gone, your patient is soon restored to full activity—often in days instead of weeks.

Soma is notably safe. Side effects are rare. Drowsiness may occur, but usually only in higher dosages. Soma is available in 350 mg. tablets. USUAL DOSAGE: 1 TABLET Q.I.D.

The muscle relaxant with an independent pain-relieving action

SOMA®

(carisoprodol, Wallace)

Wallace Laboratories, Cranbury, New Jersey

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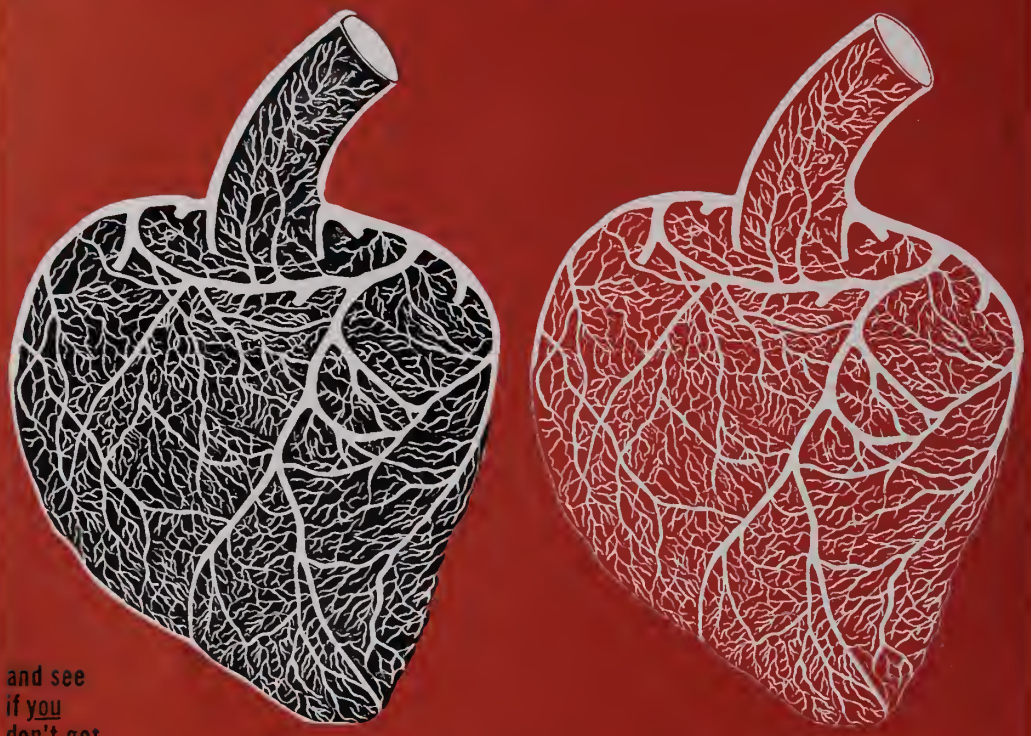

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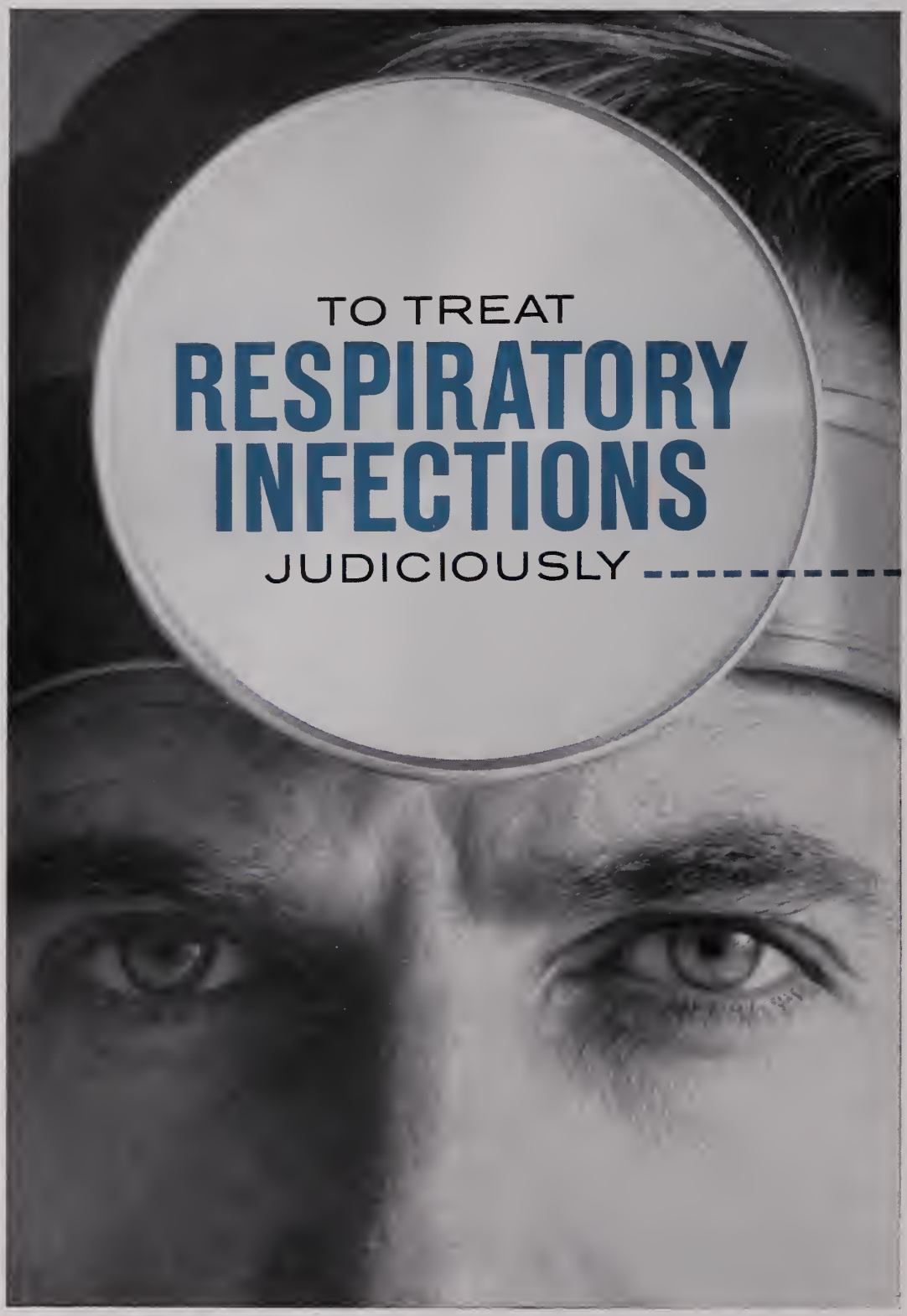
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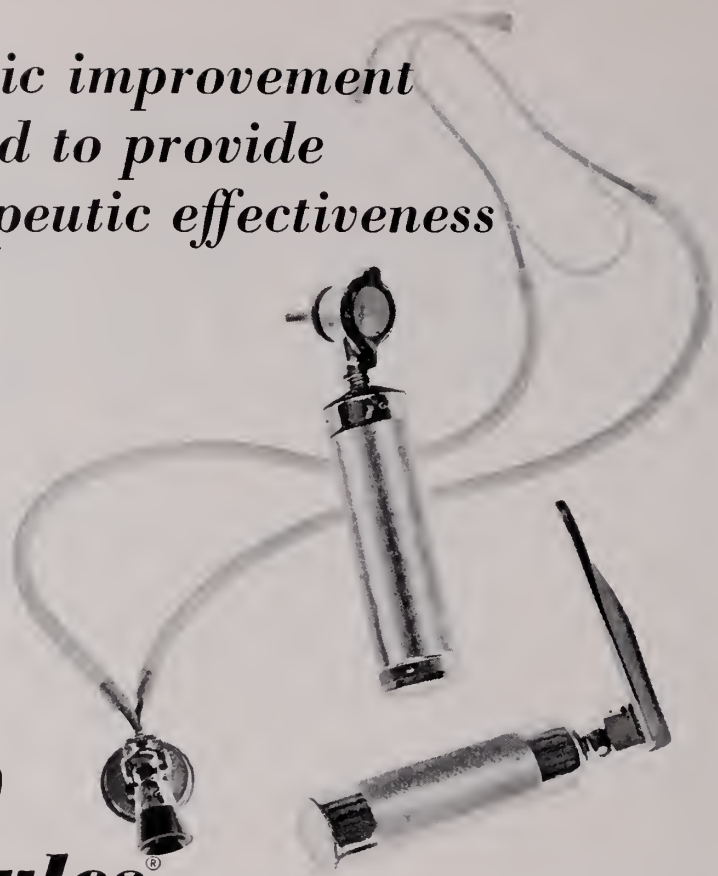

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1. Stephens, V. C., *et al.*: J. Am. Pharm. A. (Scient. Ed.), *48*:620, 1959.
2. Salitsky, S., *et al.*: Antibiotics Annual, p. 893, 1959-1960.
3. Reichelderfer, T. E., *et al.*: Antibiotics Annual, p. 899, 1959-1960.
4. Kuder, H. V.: Clin. Pharmacol. & Therap., in press.

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The Virginia
MEDICAL
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January, 1961
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Guest Editorial . . . .

Stress as an Adaptostat

O, then beware!
Those wounds heal ill that men do give themselves
Omission to do what is necessary
Seals a commission to a blank of danger.

Troilus and Cressida

IN BIOLOGIC systems stress is pressure, an internalized force producing a range of tension in the organism. Because excessive body tensions may be associated with structural strain and rupture, often fateful, stress in medicine is commonly equated with illness and trouble. We tend to forget that most physiological tensions are necessary and normal, have no inherent qualifying distinctions, and are good or bad only in amount and in relation to the conditions that provoke them. In man, emotional tension may be thought of as a mobilization of energy, a preparation for action. Stress is for excitement and fun as well as for blood, sweat, and tears, and serves our pleasurable needs in anticipation, competition, accomplishment, diversion, and repose. Perhaps stress is unpleasant and distressful only when we are frightened or frustrated: our expectations deferred or denied, our activities obstructed and unsuccessful, our basic human needs unacquired or unmaintained.

For good or bad, general bodily stress is a servomechanism, an adaptostat that normally tends to regulate the disbursement and direction of our resources in meeting the challenges of life. When energy expenditures are too great or too small; when our performances are too socially inappropriate or too foreign to what we need and plan and hope, the inward pressure rises, tension and discomfort appear as signals, there is a flag down on the play. Omission to heed the message leads to trouble, often to an illness that may enforce our compliance in life adjustments that are less provocative of stress and strain. From this viewpoint, stress-

disease sequences may be looked upon as beneficent rather than malign, in that they represent signs and pressures for corrective change. In the illness setting, new perspectives, new learning, and new attitudes often arise to promote an overall adaptation far more in keeping with an individual's endowments and potentialities for performance and satisfaction in life. Sweet indeed may be the uses of adversity.

The capabilities and opportunities of many people ordinarily allow them a wide range of adaptability. When exposed to ordinary or uncommon adversities that create stress and strain, they find ways and means to adjust. Many other persons, at the time at least, lack this native resourcefulness and show indecision, inelasticity or injudicious haste in their efforts to cope with trouble. Some of their frustrations are no doubt outrageous slings and arrows; traps due to circumstances beyond personal control. More often the individual seems to have gotten into difficulty as a result of immature attitudes, decisions and actions in the conduct of life. It is proverbially hard for people to grow up. Few of us indeed escape some 'vicious mole of nature' or 'pale cast of thought' that tends to twist perspective and to circumvent clear judgment. We commonly rough-hew our lives by the stubborn repetition of proven mistakes, by putting second or third things first, by doing things the hard way. Familiar with these observations, physicians should be led, not to invidious or moralistic appraisals of human character, but to a practical assessment of the price-in-pathology that may have to be paid for inertia and intemperance, for vanity and vice, for spiritual apathy in knowing and holding fast to what is best in the long run for ourselves and others.

The medical profession is concerned with this price because it is reflected in the excessive numbers of patients with psychosomatic complaints. Given sustained emotional strain, it is often just a matter of time when illness will appear. *Where* it will appear, in functional and organic patterns of disease, seems to depend in large part on the constitution of the individual, on genetic and developmental susceptibilities. As in most other instances, illness arises from an interaction between the host and agencies in its external or internal environments. An analogy may be read in tuberculosis, where clinical disease seems determined, not solely by the tubercle bacillus, but by complex variations in heritable and acquired resistances. In psychosomatic illness, unresolved stress may be a precipitating factor, but predisposing constituents exist in the individual and in the family, often in the community and culture.

This portrait of disease as a process developing from multiple etiologies should have important implications for treatment. A successful attack on one factor alone, one link, might be sufficient to interrupt a chain of

events leading to tissue destruction and organ impairment. Unfortunately, many of the contributory ingredients of psychosomatic illnesses are complex genetic aberrations at the present time not well enough identified or understood to be subject to correction. In terms of preventive medicine it is seldom emphasized that personality and situational precipitants are often the only factors amenable to significant modification. The general population supplies a vast reservoir of families that through inheritance and development are sitting ducks for stress-producing life trends and events. Some individuals are so genetically loaded with predisposing factors that perhaps even ordinary pressures, as in childhood, may trigger symptoms. It seems likely that in a great many people, disease will not be prevented if stress warnings are ignored, and the lesson will have to be learned the hard way if at all.

In summary, emotional stress, for better or worse, is a protective physiologic mechanism. Its participation in the morbid process of many diseases calls for understanding and interpretation by doctor and patient alike. In most practice settings, physicians faced with the opportunities and responsibilities for continuing family care, find it practical, interesting and therapeutically rewarding to study all of the components of illness. As initial doctor-symptom relationships evolve into mutually-possessive doctor-patient commitments, a natural climate is provided for the art as well as the science of medicine. In practice, the Art is the application of the Science, and it is an essential requirement to understand the patient as well as the pathology. It is science to know what to do, art to know how to do it, so that the overall medical needs of the patient will be met.

Andrew D. Hart, M.D.

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Charlottesville, Virginia

Tinea Capitis in a Public School System

Control with Griseofulvin

THOMAS W. MURRELL, Jr., M.D.
R. CAMPBELL MANSON, M.D.
E. RANDOLPH TRICE, M.D.
Richmond, Virginia

Tinea Capitis has been a problem in school children for years. Remarkably good results are reported here after a brief course of griseofulvin.

TINEA CAPITIS has been present in epidemic form in the Negro schools of the City of Richmond since 1945. The majority of these cases (over 90%) have been due to *Microsporum audouini*.[1] Numerous attempts to control this infection in various clinics have been made, but no method up to the present time has been either feasible or effective in handling large numbers of cases. While griseofulvin has proved useful in a variety of superficial fungus infections, there is little doubt that it is most effective in tinea capitis, particularly when *Microsporum audouini* or *M. canis* is the offending pathogen. A number of studies have confirmed that griseofulvin, when given in a daily dosage of one gm., for periods of from four to ten weeks, is capable of clearing tinea capitis.[2-4] In view of the difficulty in assuring adherence to a daily dosage schedule on the part of patients affected with tinea capitis, several dosage schemes have been studied with varying degrees of success.[5,6]

Pilot Studies

To determine a minimal effective single day dose pilot studies were carried out on forty clinic patients with tinea capitis. These children were observed at weekly intervals for three to four months and cultures were taken as a test of cure every two to three weeks. It was determined from these observations that three gms. of griseofulvin* given in a twenty-four hour period was effective in the eradication of this disease, and that this dosage could be used regardless of age or weight in children five years and over.

As a result of these studies it was decided to undertake eradication of tinea capitis in twenty-one Negro schools in the Richmond Public School System.

Materials and Methods

School nurses were trained in the use of the Wood's Light and all children with suspicious scalp lesions were examined in the individual schools. A total of 485 Negro children in twenty-one schools were found to have Wood's Light positive lesions. Fluorescent hairs were removed from 457 of these children for culture; twenty elected treatment by their family physicians; five refused treatment, and three removed from the Richmond area. Of the 457 patients cultured, 430 had cultures positive for *M. audouini*. This group was comprised of 373

From the Department of Dermatology, Medical College of Virginia, Richmond, Virginia. The cooperation of Dr. Charles L. Outland, Medical Director, Richmond Public Schools, and of Dr. Frederick A. Clark, Jr., Director, City of Richmond Department of Public Health, is gratefully acknowledged.

* The griseofulvin (Fulvicin[R]) used in the pilot study was furnished by Schering Corporation, Bloomfield, New Jersey.

males and fifty-seven females, ranging in age from five to fourteen years. Thus, the male-to-female ratio was almost seven to one, and the incidence was highest in the seven to eight year-old group. However, some infections in girls may have been overlooked due to difficulty in examining the scalp under Wood's Light and the use of greasy preparations in the hair.

The 430 children with positive cultures were divided into five groups, and examined on different days by members of the study group. At the time of examination each child was observed under the Wood's Light to re-confirm the diagnosis. Immediately following this examination, each child was given two 500 mgm. tablets of griseofulvin and the tablets were taken under supervision of a nurse. Each child was then given an envelope containing an additional four 500 mgm. tablets with written instructions to take two tablets at 10 P.M. that night and the other two at 7 A.M. the following morning. The total dosage for each child was three grams. To encourage observance of these instructions, the child was required to have his parents enter on the instruction sheet the exact time that the medication was taken, and to return the sheet to school (see fig. I). Parents also received written instructions to have the child wear a cap in school until a cure was obtained; to wash the child's hair twice weekly with soap, and cut the hair short two weeks after the day of treatment and again after one month. Originally it had been planned to re-examine the children in four weeks, but unusually poor weather conditions caused postponement and the children treated were re-examined in eight to ten weeks following therapy.

Results

Figure II shows a total of 404 of the 430 children treated were free of infection upon re-examination. Twenty-four still showed fluorescence and were-retreated in other clinics. Three of the retreated cases were examined later and were free of infection. Follow-up of the remaining twenty-one cases is not included in this report. No side effects were noted in any of the 430 children receiving three gm. of griseofulvin in a twenty-four hour period.

Discussion

The results of this study show the feasibility of using the single day griseofulvin regimen (three doses of one gm. each, given at approximately eight-hour intervals) in the management of tinea capitis due to *M. audouini,* occurring in epidemics in schools or institutions. Although this regimen did not clear the infection in all cases, the fact that 404 (94%) of 430 children were cleared would appear to indicate its value in certain large patient populations. This is particularly true when the need for a daily dosage schedule over several weeks' time presents a difficult problem. Short courses of therapy also reduce the possibility of such griseofulvin-induced side effects as the temporary white count depressions in children noted by other investigators.

The effect of griseofulvin in this disease is to block the growth of fungi at the base of the hair. After treatment, the area of infection as shown by fluorescence in the hair shaft tends to grow out as the hair grows at its normal rate. When sufficient growth has taken place cutting the hair at the scalp surface removes the infected hair. This phenomenon had never been noted prior to griseofulvin therapy.

The fact that the proportion of successful results obtained in this study was higher than that reported by other investigators using short-term griseofulvin therapy in tinea capitis, appears to be related to the accidental delay in the re-examinations. While we intended, as has been done by other investigators, to evaluate the patients within four weeks, this was only carried out after six to ten weeks in view of poor weather conditions. It appears, then, that it is advisable to allow approximately eight weeks to elapse following a short course of griseofulvin therapy prior to evaluating the patients.

It should also be borne in mind that at least some of the twenty-four patients who did not respond may have failed to take the second and third doses as directed. This possibility appears more likely since the three patients re-examined following re-treatment with a single-day course of therapy have cleared.

Summary and Conclusions

1. Of the 485 children cultured because of lesions suggesting tinea capitis, 430 were positive for *M. audouini.*
2. The 430 patients whose cultures were positive for *M. audouini* were given three doses of one gm. griseofulvin each in a twenty-four hour period for a total dosage of three gm. and were re-examined six to ten weeks thereafter.
3. Upon re-examination, 404 (94%) of the 430 patients treated were found to be free of tinea capitis. Twenty-four (5.5%) were unimproved and cultures were positive for *M. audouini.* Two patients (.5%) failed to return for re-examination.
4. No side effects were seen with the single day regimen of griseofulvin in this series of patients.
5. A regimen of three doses of one gm. of griseofulvin each, administered within a twenty-four hour period, appears to be an ideal approach to the problem of tinea capitis in school populations or other large patient populations.

References

1. Reid, J. D., and Carter, E. B.: Tinea Capitis Infections In Virginia. Virginia M. Monthly 83: 261-62 (June) 1956.
2. Harrell, E. R., *et al.*: Effects of Griseofulvin On Tinea Capitis Caused By Microsporum Audouini. A.M.A. Arch. Dermat. 81: 797 (May) 1960.
3. Burgoon, C. F., *et al.*: Griseofulvin In Tinea Capitis, scientific exhibit presented at Spring Meet., Am. Acad. of Pediatrics, Atlantic City, N. J., (April) 1960.
4. Bensel, A.: Treatment of Tinea Capitis In Children With Griesofulvin. Am. J. Dis. Child. 101:131 (July) 1960.
5. Kirk, J., and Miles, V. E.: Use of Griseofulvin In the Therapy of Tinea Capitis In Children. A.M.A. Arch. Dermat. 81:807 (May) 1960.
6. Reiss, F.: Personal communicaton to the author.
7. Pipkin, J. L.: The Treatment of Endothrix Trichophyton Infections Was Griseofulvin. A.M.A. Arch. Dermat. 81: 813 (May) 1960.

Fig. I. Instruction Sheet

Name _____

School _____

There are 4 tablets in this envelope. Take 2 tablets at 10 P.M. tonight.

_____

(Exact time tablets taken)

Take 2 tablets at 7 A.M. tomorrow.

_____

(Exact time tablets taken)

Instructions for Care of Hair

1. Be sure to give your child the pills at the time written on envelope.
2. Your child must wear a cap in school until told that he or she is cured.
3. Shampoo hair twice a week with plain soap.
4. Two weeks after today cut hair as short as possible and be sure to put the cut hair in the trash.
5. Cut hair again after one month and be sure to put the cut hair in the trash.

Fig. II. Results of Three-Dose Griseofulvin Therapy in Tinea Capitis

No. of Cases w/Suspect Lesions	No. of Cases positive for M. audouini	No. of Cases Treated	Cleared Upon Re-examination (after 6-10 wks.)	No. of Cases Retreated	Miscellaneous Observations
485	430	430	404	24	20—Elected treat. by family M.D. 5—Refused treat. 3—Moved. 2—Failed to return for re-examination.

Age and Sex Distribution of Patients

5 yrs.	6 yrs.	7 yrs.	8 yrs.	9 yrs.	10 yrs.	11 yrs.	12 yrs.	13 yrs.	14 yrs.	373 M	57 F
67	58	80	79	52	53	30	10	0	1		

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215 Medical Arts Building (Dr. Trice)
Richmond, Virginia

Bleeding Peptic Ulcer

A Form of Spontaneous Hemorrhage

PHILIP JACOBSON, M.D.
Petersburg, Virginia

The concept of the Bleeding State is advanced and bleeding peptic ulcer is presented as an example. Hemorrhage occurs, not because of the ulcer, but because of the development of the bleeding state.

THE PURPOSES of this article are: (1) to challenge the prevailing belief that peptic ulcer and bleeding peptic ulcer are varieties of the same disease; and (2) to advance the theory that the bleeding is independent of the ulcer and is a form of Spontaneous Hemorrhage. Bleeding from a peptic ulcer is not just an unfortunate complication. The bleeding ulcer is destined to bleed right from its inception. Bleeding is a separate disease which may or may not be associated with the ulcer and may even create the ulcer to serve as a bleeding lesion. This argument is based on certain differences in the pathology of bleeding and non-bleeding peptic ulcers and on the results of hormonal therapy.

Dissatisfaction with our knowledge and therapy of bleeding peptic ulcer and of bleeding generally is apparent from the many references to these problems. One editor recently asked:[1] "What is there about a bleeding ulcer patient that makes him susceptible to renewed bleeding after operation, even though the recurrent ulcer is at a totally different site from the original one? Certainly no bleeding tendency in this type of patient has ever been described." Another said:[2] "Current physiological knowledge does not suffice to explain the difference between bleeders and non-bleeders." An expression of bewilderment is the conclusion of Lewison to a collective review of bleeding peptic ulcer:[3]

> In the halcyon years ahead, those men of medicine who may perchance read these pages should do so in the full realization of how dense and baffling was our present veil of the unknown. Our present concept of the treatment of bleeding peptic ulcer constitutes merely a single facet, albeit a most important one, in the medical, surgical and economic aspects of a broader problem, the ulcer diathesis. Perhaps the compassion and wisdom of future experience will forgive our present clumsiness and in the full light of tomorrow we shall be able to look forward to new and more suitable drugs which will enable us to conquer the stark sequelae of vagotonia and ulcer. However, until such time as a sovereign remedy to brave the bastion of bleeding ulcer appears, our therapeutic armamentarium must rest upon present devices. Final judgment is forced upon us by clinical experience alone. And to quote Shakespeare, 'How this audit stands, no one knows save Heaven.'

The new approach I have proposed implicates the endocrine system. This concept, Spontaneous Hemorrhage as a clinical entity, will be described briefly here since it has been elaborated elsewhere.[4-7] It is an attempt to change current opinions and practices which are unfounded and confusing. Hemorrhage now is considered to be secondary to a lesion, such as peptic ulcer. According to my theory of Spontaneous Hemorrhage and the bleeding state, these positions are reversed and the lesion is only the source of bleeding.

Incidence of Bleeding

The incidence of bleeding during the course of peptic ulcer is not known. Reports

vary from 2 to 50 per cent and some are only estimates. But Garrido-Klinge and Pena[8] state that bleeding occurred in 66 per cent of their cases and attribute this excessive incidence to special circulatory factors that exist in the high altitudes of the Andes. Nosebleeding is also prevalent in these high altitudes and perhaps other forms of bleeding as well. Hemorrhage then can well be a specific hazard of living, working and stress in this area. The point to be noted is that the tendency to bleed is the principal feature and the source of the hemorrhage is secondary to it. In presenting Spontaneous Hemorrhage as a clinical entity in itself, I have repeatedly stated that it has infinite manifestations depending upon where it strikes and the cause of bleeding and the source must be carefully differentiated. Hence the specific circulatory factors in operation in the Andes are more likely to be responsible for the high incidence of hemorrhage than the ulcers.

Assessing the incidence of bleeding in peptic ulcer is prevented by the large number of patients in whom an ulcer or lesion cannot be found even at operation or autopsy. Sometimes, because of the conviction that a source of hemorrhage must exist, special injection methods are required to demonstrate an open vessel hidden under a fold of mucosa. This lesion may be considered to be an ulcer since the mucosa over it has been interrupted but it is not ulceration as that term is generally understood. Another impediment is the tendency of authors to select only well documented and proven cases of peptic ulcer for their reports, thus preventing the inclusion of cases in which these lesions are present but cannot be demonstrated. There are also those lesions secondary to conditions such as extensive burns, diseases and tumors of the central nervous system, cirrhosis of the liver, amyloidosis, nephritis and many others with which bleeding often occurs. Integrating all of these factors to determine the incidence of bleeding in peptic ulceration is almost hopeless.

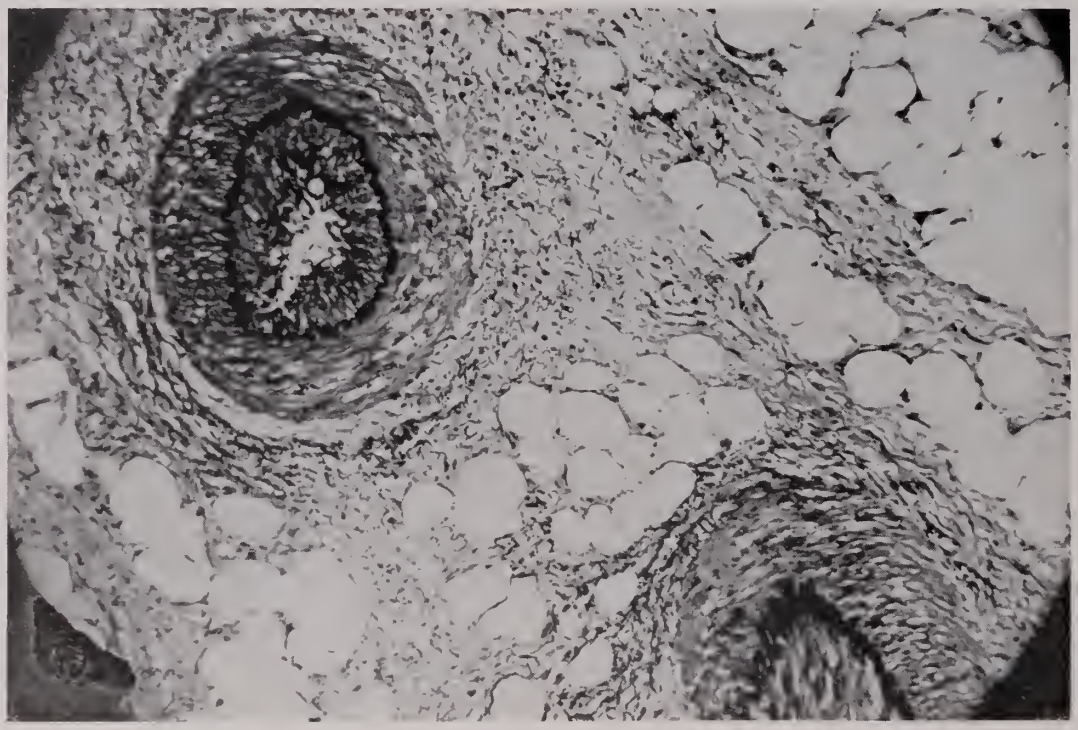

Fig. 1—Endothelial hypertrophy in a vessel at the base of an ulcer just distal to the pylorus. The elastica is clearly marked between the media and the endothelial occlusion.

Pathology

The popular idea that bleeding is the result of the penetration of a vessel is upheld

by experimental evidence that the gastric juices will invade the wall of an artery and expose its lumen while a vein will remain undamaged.[9] The validity of this evidence when applied to man is denied by the facts, for if it were sound then every ulcer should bleed. Although some areas are more vascular than others, it would be difficult indeed to find a spot anywhere in the stomach or duodenum which does not contain a vessel large enough to bleed should an ulcer start over it. Yet only a small proportion of ulcers bleed. The reason can be found in a protective mechanism that, although known, is not acknowledged.

The photomicrographs of vessels in the bases of ulcers depict nothing that is new. Their interpretation, however, is based on hemorrhage, and from that standpoint, they have been viewed somewhat differently. In them one finds exactly what one expects to find: the vessels of non-bleeding ulcers are occluded while those of bleeding ulcers are wide open. The occlusion is not by a thrombus but by an endothelial hypertrophy which must have required considerable time for its preparation. What is there then about these ulcers that stimulates the production of endothelial hypertrophy in one kind and that inhibits, even entirely prevents it, in another?

Various explanations come to mind, but when collated with clinical experience they are not convincing. The acuteness of the ulcer is not a factor. So many bleeding and perforated ulcers are asymptomatic that it is almost impossible to judge their degree of acuteness even by examination of the lesion itself. Yet one bleeds while the perforating ulcer, although it bores right through highly vascular tissues, rarely if ever bleeds and in my experience never bleeds. If the chronicity of the ulcer is considered a factor, then clinical experience again denies its role. A chronic ulcer in the duodenum over the pancreatico-duodenal artery usually may be of such long duration that the inflammatory induration around it creates the "pipe stem"

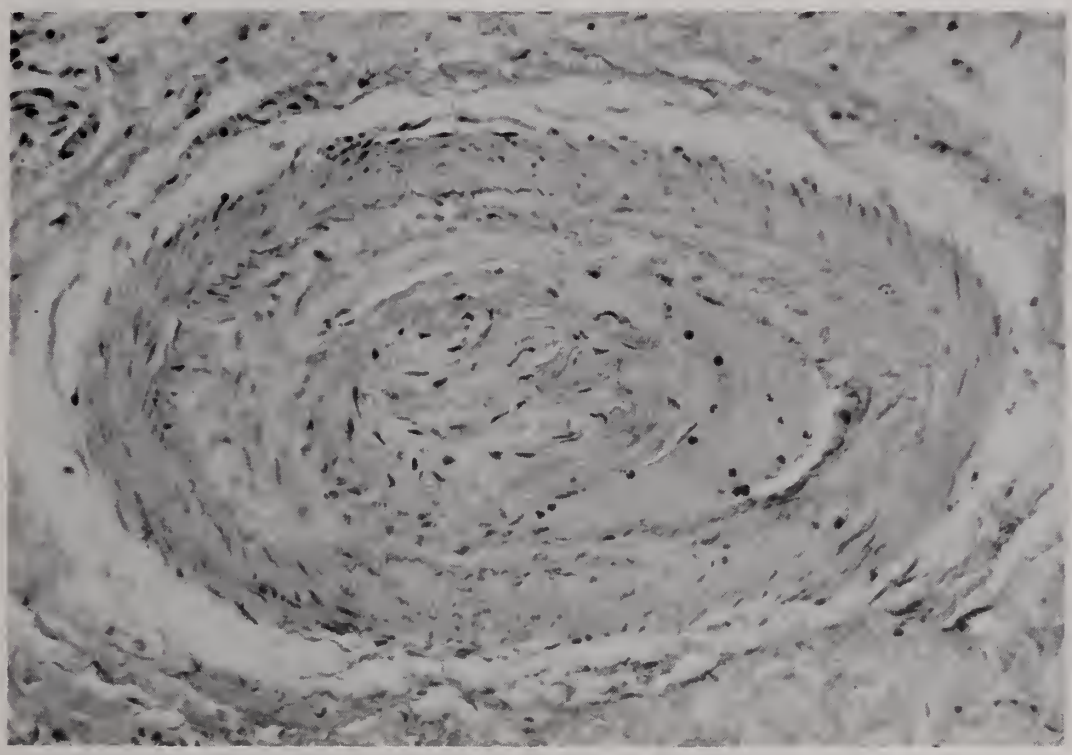

Fig. 2—Vessel undergoing organization in the base of a non-bleeding gastric ulcer. A small triangular area is still open but the elastica and the lumen are far apart with little room for bleeding even if the vessel were exposed at this stage.

quality by which this artery is described. But no endothelial hypertrophy obstructs the lumen, and when this vessel is exposed there is nothing to prevent hemorrhage.

A comparable situation is found in the hemorrhages associated with pulmonary tuberculosis. Some patients bleed, more do not. The accepted explanation for the hemorrhage is that a cavity has eroded into a vessel. But the changes in these vessels parallel almost exactly those in peptic ulceration and therefore the mechanism of their production must be similar. In the non-bleeders, vessels are occluded by endothelial hypertrophy. In the bleeders the vessels are wide open and even aneurysmal dilatations are present regardless of whether the lesion is minimal or extensive.[10] Pulmonary tuberculosis and its complications are becoming much less frequent and only one case of hemorrhage has been encountered. The bleeding was promptly halted with intravenous estrogen. Thus bleeding does not depend upon whether penetration of a vessel succeeds before its occlusion is completed; the outcome is certain from the start.

The production of endothelial hypertrophy then is one key with which to unlock the mystery of bleeding, why it intervenes or what prevents it from growing. It is for this reason I have made the assertion that a bleeding ulcer is intended to bleed from its inception. Undoubtedly acid-peptic digestion of the vessel wall takes a small part in the production of hemorrhage but even that role is diminished by the facts derived from the pathology of these lesions.

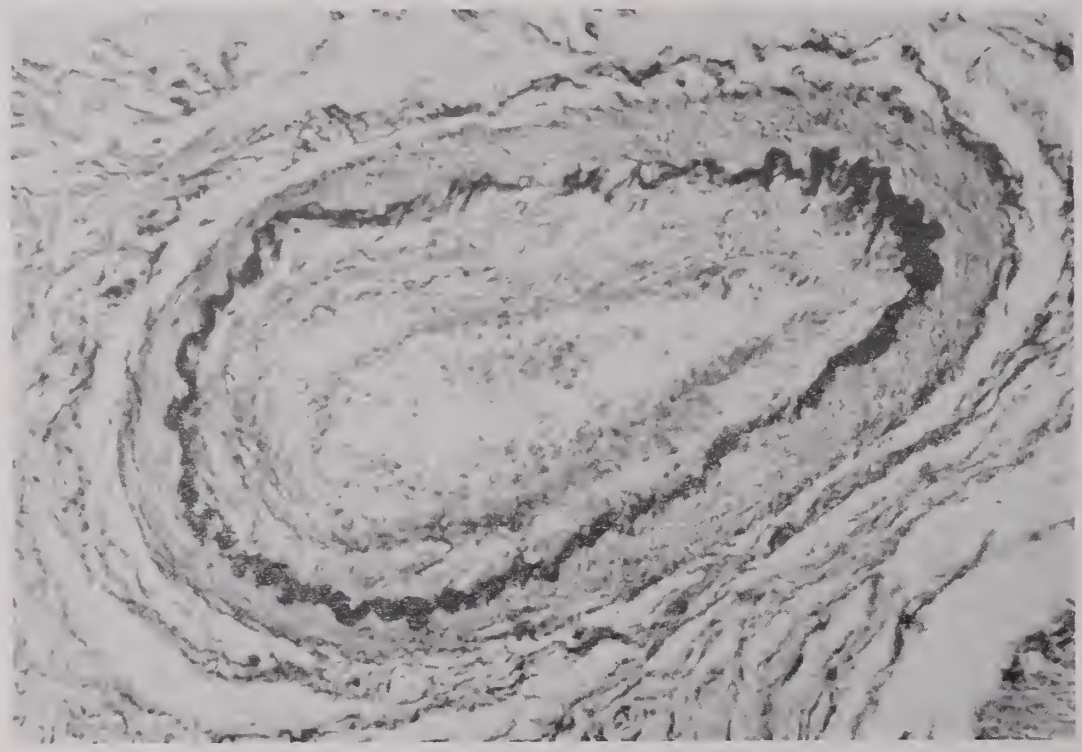

Fig. 3—Vessel from the base of an anastomotic ulcer. The elastica as well as the endothelium is hypertrophied. A small portion of the lumen is still open but would probably be occluded by the time the ulcer reached it. Note the absence of a thrombus.

Another conclusion is that the term bleeding peptic ulcer itself is a misnomer and is misleading. Lewison quotes Rivers and Wilbur as stating that hemorrhage may occur from small, actively and passively congested vessels surrounding an area of ulceration or from the vascular granulation tissue present in the base of a healing ulcer. Profuse bleeding may occur from an area of healing granulation tissue. Many bleeding ulcers are not due to actual penetration into large blood

vessels. However, most often the lateral wall of a blood vessel which may have undergone some degree of weakening or aneurysmal dilatation is the source of the hemorrhage. Thrombosis within the vessel with obliteration and later organization may be the fate and good fortune in certain cases. In cases associated with extensive arteriosclerosis, the eroded vessel may be as stiff as a quill and embedded in a dense mass of scar tissue. Retraction or constriction of its lumen is impossible and a fatal outcome may result. The extent and severity of the bleeding may not be necessarily related to the size of the ulcer of the magnitude of the vessel from which the bleeding occurs.

Three facts stand out from this description. (1) Bleeding may occur from lesions which range all the way from what appears to be no lesion at all, to ulcers that are healing and from granulation tissue as well as frank ulcers; (2) the penetration of an artery is preceded by an aneurysmal dilatation, and (3) massive hemorrhage can occur from apparently trivial lesions. These facts suggest that these lesions are for the purpose of bleeding and the hemorrhage is not a local affair but the result of systemic forces. The massiveness of the bleeding, which I have called attention to in other publications, cannot be merely the passive release of blood from an open vessel by the ordinary pressure in its lumen. Instead the bleeding is often of such force and volume that another power must be involved. Blood can be expelled under an excessive pressure that often ends in shock, exsanguination and death with startling rapidity.

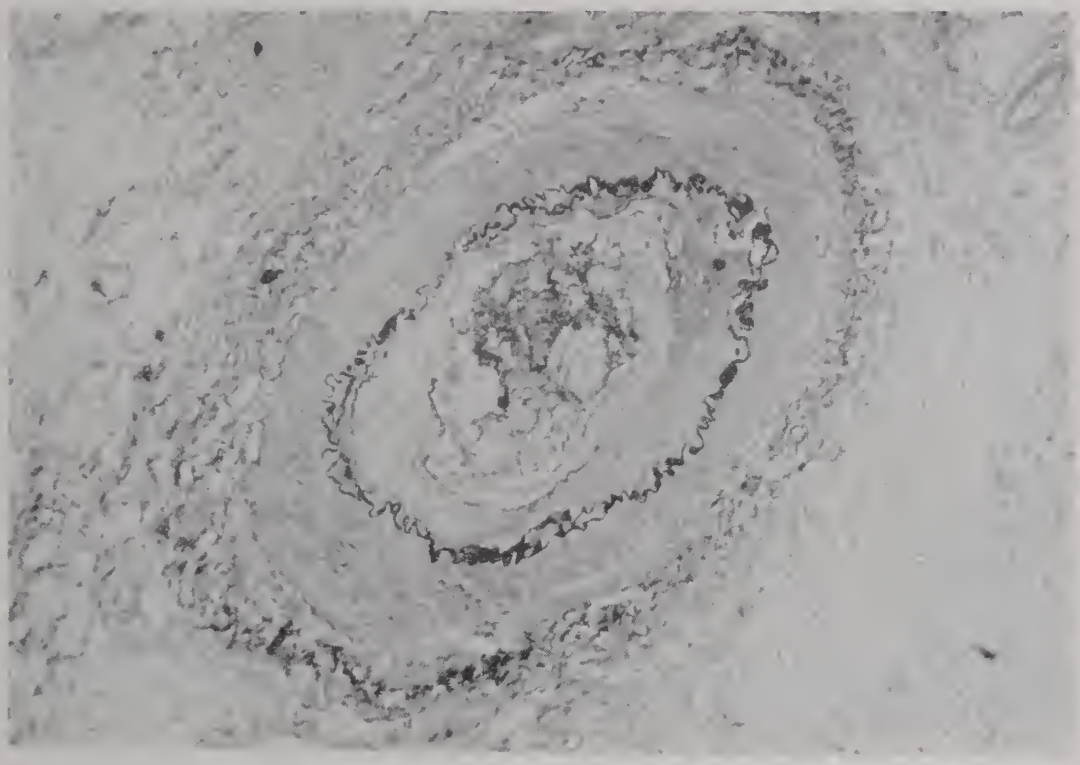

Fig. 4—Vessel from the base of an asymptomatic perforated ulcer. The elastica is fragmented and the endothelium is hypertrophied. Red cells are trapped in what appear to be foam cells completely occluding the lumen.

Aspects of Present Therapy of Bleeding Peptic Ulcer

Since one of the purposes of this article is to establish bleeding peptic ulcer as a systemic disease of hormonal origin, there is no reason to include a discussion of the virtues or vices of the "present devices of the therapeutic armamentarium" now at our disposal. Lewison says:

The treatment of acute hemorrhage due to peptic ulcer remains the subject of diverse and ofttimes stormy controversy. . . . In clarifying the clinical problem of the surgical care of ulcer hemorrhage, one must choose carefully for the medical literature abounds in a profusion of contradictory advice. To profit from even the sagest advice requires more wisdom than to give it as the medical literature also has its share of well meaning champions, ardent zealots and misguided enthusiasts.

The data on the treatment of bleeding peptic ulcer is replete with inconsistencies which authors as a rule admit freely and for which there are little or no explanations. These stem from considering the hemorrhages as secondary to the ulcer and treating them as if they were traumatic or surgical bleeding. Data from an excellent article by Donaldson and his associates[11] will be presented here as an example to further my theory that this bleeding is hormonal in origin and is caused by a systemic disease.

Two discrepancies between treatment and results stand out prominently. One is that recurrence was common even after the source of bleeding had unquestionably been eliminated; and the other is that 37 of their 136 patients had neither gastrectomy nor recurrent bleeding during the five years following their first hemorrhage. Five years was an arbitrary interval set to determine whether or not these patients were cured but sometimes bleeding would recur months after even this much time had elapsed. Hence, either with or without the elimination of the lesion, bleeding would recur or would not recur. Furthermore, there was no constant pattern of bleeding in any given patient. A mild bleeding episode on one occasion often was followed by a severe hemorrhage and the reverse also occurred frequently. If the 37 patients who had neither gastrectomy or recurrence would have undergone operation, then regardless of what was done, the procedures would have been 100 per cent successful and the surgeon would have had an enviable record.

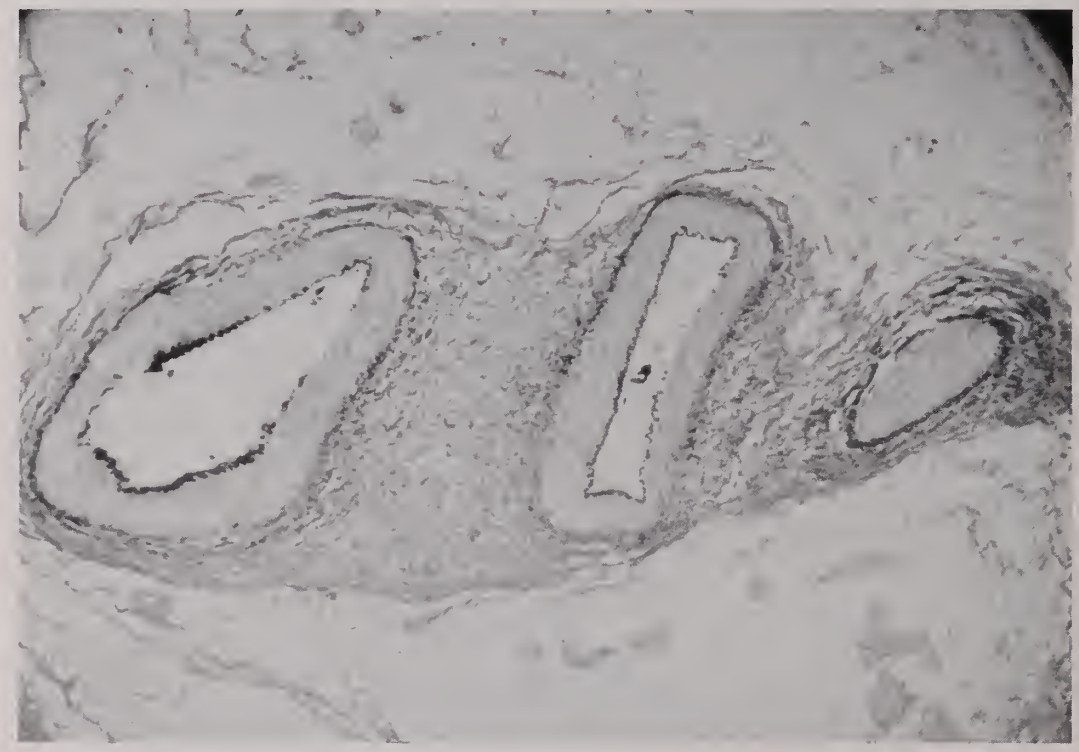

Fig. 5—Vessels from the base of a bleeding gastric ulcer. The one at the right has been cut parallel to the wall and its lumen does not show. In the others, the lumens are wide open, the elastica is clearly marked and there is no endothelial hypertrophy.

The same reasoning may be applied to data on the hormonal therapy of sponta-

neous bleeding and particularly to the bleeding from peptic ulcers. There is no constant pattern and it is impossible to state with absolute assurance whether the hormone arrested the bleeding or if it would have ceased of its own accord. Among my colleagues and myself, we have treated nearly 1000 cases of epistaxis and the therapy is considered to have been effective in at least 950. Those figures would be impressive in any study, but how many of these patients would have stopped bleeding without any treatment cannot be estimated. Until the invention of suitable tests and the discovery of the true nature of this bleeding, the only resource for judging the value of the hormonal treatment of spontaneous bleeding is clinical impressions and their reliability depends upon the observer. For these reasons, statistics will be omitted. One advantage of hormonal therapy and particularly intravenous estrogen therapy is that no harm can be done.

The discrepancies become more compatible when bleeding is considered to be separate and independent of the lesion and that during the bleeding state, a hypothesis to be described presently, hemorrhage will occur either through a lesion of its own creation or from one already in existence. An example of the former is ordinary epistaxis; an example of the latter is hemorrhage from a fungating carcinoma of the cervix. Four patients who had seven hemorrhages severe enough to warrant ligation of the hypogastric arteries were treated with intravenous estrogen and in all the bleeding was promptly arrested without operation. The point to be emphasized is that in epistaxis the lesion was created and then disappeared and in the hemorrhages from carcinoma the lesion was present before the hemorrhage started and remained unchanged after the bleeding stopped. The lesion then was not at fault and was only the source of bleeding. The statement that the manifestations of Spontaneous Hemorrhage are infinite and depend upon where the disease strikes can be supported by reflection upon the almost myriad locations where bleeding can and does occur.

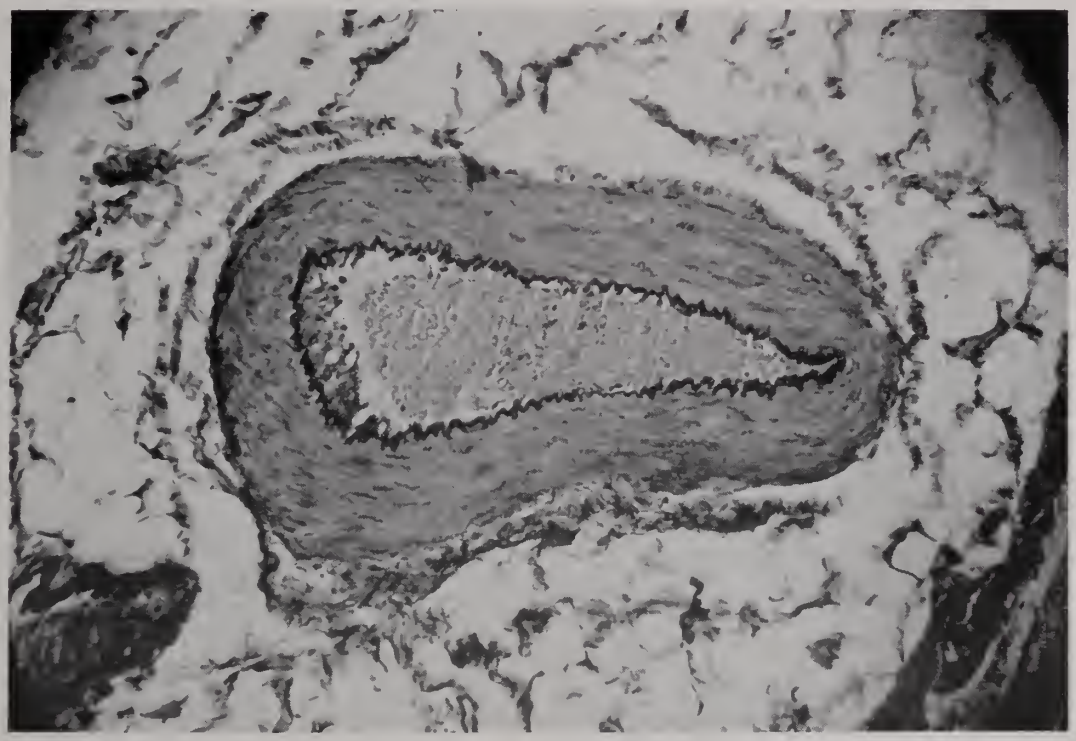

Fig. 6—Vessel from a bleeding gastric ulcer close to the pylorus. This vessel also is wide open.

The first concern of the clinician is the arrest of the hemorrhage and every device

and means at his disposal should be employed to accomplish that objective. But if he limits himself to the devices and means for controlling traumatic or surgical hemorrhage, then he overlooks the important and essential facet of this bleeding that it can be the local manifestation of a systemic condition. I have arrived at that conclusion for two reasons: first, the ability to determine who are bleeders and who are non-bleeders is almost non-existent; and, second, the results

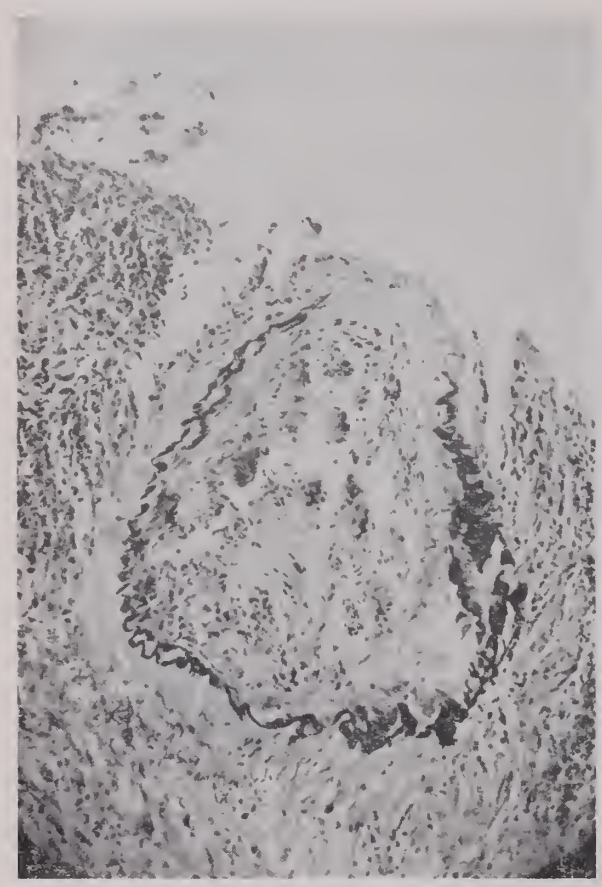

Fig. 7—Vessel at the surface of the same ulcer as the one of Fig. 4. The ulcer has reached the vessel but it cannot bleed.

of hormonal therapy indicate that hormonal imbalances play a decisive role in the production of spontaneous bleeding which includes bleeding from peptic ulcers. Since our comprehension of the hemostatic and hemorrhagic processes is so defective even while the sum total of our knowledge is increasing, I have resorted to speculation and conjecture as a means of anticipating the facts before arriving at the facts.

Illustrative Cases

Of the four cases to be presented here, three are of patients with bleeding peptic ulcer. The fourth patient was bleeding from the lip. Two of these four cases illustrate the application of hormonal therapy in related forms of bleeding and that bleeding can arise from estrogen deficiency of known origin.

The first was that of a 39 year old woman who was found in shock in her living room.

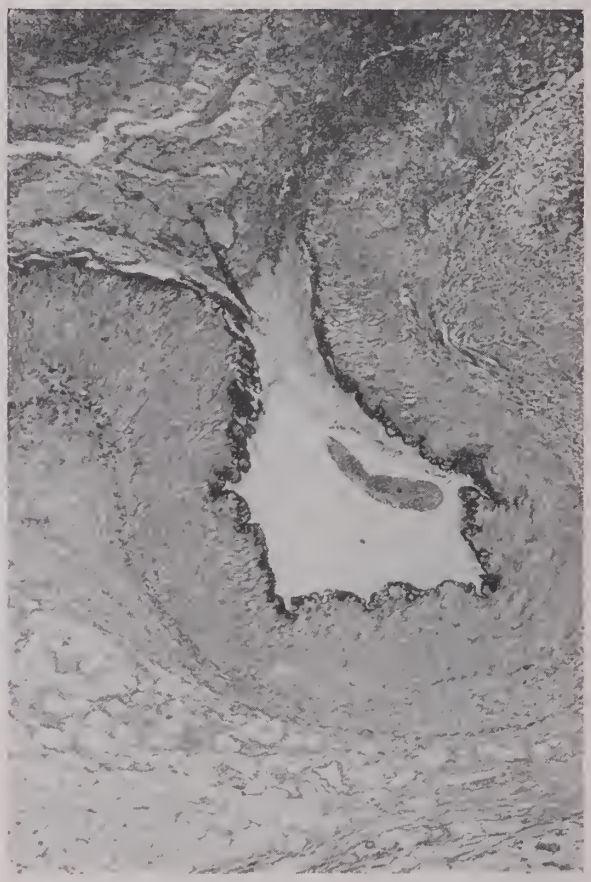

Fig. 8—Section across the crater of a bleeding gastric ulcer. The aneurysmal dilatation has ruptured and its excess elastica extends out beyond the picture. Endothelial hypertrophy is absent.

She had had intensive radium therapy for functional uterine bleeding and as one sequel suffered intensely from hot flushes. A small black stool confirmed my impression that she was bleeding from an obscure asymptomatic gastro-intestinal lesion. She complained bitterly of the flushes and was given .5 mg. of estrogen in oil to relieve them before sending her to the hospital. This prep-

aration was the only potent estrogenic hormone available in that day. Much to my surprise, the shock completely disappeared along with the flushes before she reached the hospital. There, studies disclosed a small ulcer just distal to the pylorus.

Several such episodes occurred and she soon was able to predict their onset by the intensity of the flushes. Estrogen in oil would be given as a prophylactic measure and she remained free of bleeding for over a year. However, in due course, she became unhappy over the necessity for "shots" and followed the urging of her friends to seek relief elsewhere. She was advised that the bleeding could be cured by removing the ulcer. Subtotal gastrectomy was done and her convalescence proceded uneventfully for two weeks when she suddenly expired from a massive hemorrhage.

The second case was that of a 55 year old woman who also had had radium therapy for uterine bleeding and had severe flushes. One morning when the flushes were unusually intense, she noticed that her face was swelling and her lower lip became painful. Suddenly a vessel burst and she began bleeding profusely. She presented an unusual spectacle because her face was swollen, the veins were prominent and distended and her color was slightly cyanotic. A large volume of blood was pouring out of a small aperture on the right side of her lower lip just above the vermillion border.

It was my intention to suture or clamp the aperture when it occurred to me that puncture wounds in this congested area would only provide additional openings for the escape of blood. Recollection of the flushes in the first case prompted me to give

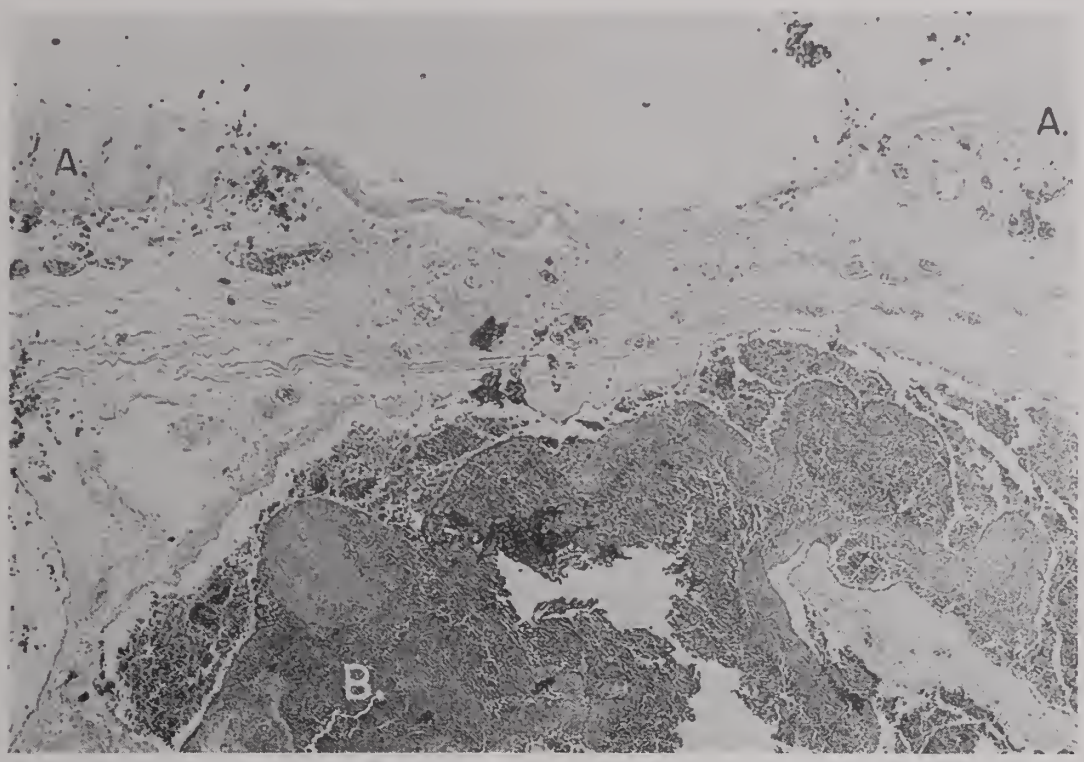

Fig. 9—Section from the esophagus of a 59 year old cirrhotic male who died in hepatic coma (AFIP 901766). The normal layer of epithelium is at A A. Destruction over the varix B has started just medial to the letters and completed at right center where the epithelium is absent. The epithelium must have been destroyed first since the submucosa between the erosion and the varix is still intact. Necrosis of the epithelium is thought to be the result of stasis and pressure. According to my theory it is due to the same toxin that created the varix. Child and Donovan state that this necrosis is not esophagitis. Esophageal varices are constantly fluctuating even though the cirrhosis is static. Hence forces other than obstruction, trauma or pressure, must change as well as create them. Bleeding esophageal varices cannot be produced experimentally without cirrhosis no matter how the portal circulation is obstructed.

her .5 mg. of estrogen in oil. The bleeding and congestion stopped in about 20 minutes, although the aperture remained wide open.

The events of these two cases happened when radium therapy was in its heyday and overdosage was frequent. The repercussions on the endocrine system in many similar cases were especially trying and bleeding from the rectum and nose was common. Flushes were much more severe and frequent than those after the normal or surgical menopause, but they could be controlled by estrogen therapy to the degree that they could be endured. The cessation of the bleeding and the simultaneous subsidence of the flushes were strong evidence that estrogen deprivation was responsible for the bleeding in these two patients.

The third case is that of a 54 year old man who complained of heartburn and indigestion and was brought to the hospital because of hematemesis. About an hour after he was admitted, he had a large black stool. He was in partial shock and was given estrogen in oil. He improved considerably and roentgen studies revealed a duodenal ulcer. The stools cleared rapidly and his gastric discomfort had just about disappeared under dietetic therapy when he complained of a fainty feeling and his blood pressure dropped alarmingly. After estrogen therapy, the blood pressure improved and his general condition returned to normal.

Repetitions of this episode occurred every two or three months although he had no ulcer symptoms. He went to a hospital in another city where operation was advised but he refused to have it done. Upon his return, he again came under my care. Careful explanation of the probable sequence of prodromal symptoms enabled him to come to the office when a bleeding episode was developing and the administration of intravenous estrogen would quickly dispel it. It may seem presumptuous to predict that a bleeding episode is imminent and there is no way of proving that it would have happened without this treatment but this patient has not bled for six years.

The fourth case is selected because it is typical of 18 more that differ only in details. A 64 year old man who had been under severe emotional strain was brought to the hospital in shock with a history of black stools for several days and an uncomfortable sensation of fullness in his upper abdomen. There was no history of previous gastric disturbance. The diagnosis of gastrointestinal bleeding was obvious so 20 mg. of estrogen was given intravenously at once. The shock improved but as he had apparently lost considerable blood, 500 cc., in which was incorporated another 20 mg. of estrogen, was given as soon as preparation for the transfusion could be completed. The shock disappeared entirely. The next morning the hemoglobin was 7 gm. per 100 cc. of blood and an ulcer was found in the duodenum. He was given three transfusions, one a day, but on the fourth day he complained of suddenly feeling weak and as if he were going to faint. Another 20 mg. of estrogen was given and he quickly recovered. The reappearance of a black stool indicated that he had had another small hemorrhage. His convalescence continued uneventfully and he has not had a recurrence in a year.

The etiology of peptic ulcer is of no concern here except insofar as the origin of bleeding is concerned and estrogen therapy is intended only for the bleeding and not for the ulcer. This treatment has been successful in hundreds of instances of various kinds of Spontaneous Hemorrhage, which also includes delayed bleeding. The details of many of these results and the methods of therapy can be found in other publications. Many reports of its successful application have been received from colleagues who have exhausted their resources. Finally they use it as a last resort sometimes with dramatic and startling results which they could not comprehend. Unexpected accessions and benefits also have been obtained that portend the usefulness of this therapy in other fields.[12]

These, too, have either been published or are in the process of publication.

Failures have occurred in those instances when the hemorrhage has been explosive and so severe that there was little opportunity to do anything. This experience may furnish a criterion for operation which so far has been a matter for controversy. If the condition of the patient who has obscure bleeding of gastro-intestinal origin does not indicate that the hemorrhage is responding to this therapy after two or three injections have been given at hourly intervals, then it is more than likely that a vessel too large to be controlled by any means short of ligation is open and operation is indicated. As I have said, the first concern of the clinician is the arrest of hemorrhage and he is justified in employing every means and device available to control it. However, he will discover that operation often can be avoided or delayed and additional time for searching for the source of bleeding will be granted. When transfusions are indicated, the patient will tolerate them much better and less blood will be needed. As I believe that operation on acutely bleeding patients is much more hazardous than when they are not bleeding, this avoidance and delay is much more valuable than the increased probability of finding the bleeding point or area while the hemorrhage is in progress. In this situation, the importance of clinical judgment and experience cannot be overstimated and decisions are extremely difficult.

Theory of Spontaneous Bleeding and the Bleeding State

The human organism already possesses an inherent mechanism for bleeding—the menstrual cycle, and that cycle has the ability to both start bleeding by itself and to stop bleeding without the aid of coagulation. The beginning and ending of the bleeding depend entirely upon endocrine changes. These secretions are in the circulation of men as well as women and it is conceivable that similar imbalances can cause the same effects. Precipitation of bleeding in the menstrual cycle is due to a menstrual toxin, which in reality is a vascular toxin that attacks the spiral endometrial vessels. This toxin has irritating systemic effects which only too often are discernible in the premenstrual and menstruating phase. A similar toxin can be elaborated out of hormonal imbalances in both sexes that can attack the vessels at the designated bleeding site. I have called this situation, when it arises, the bleeding state and it is a phenomenon that is so common and happens so frequently that every branch of medicine must contend with it. I believe it accounts for at least one-quarter of the mortality in this country. This estimate is based on the frequency with which spontaneous bleeding is found in the walls of arteries causing dissecting aneurysms, coronary and other arterial occlusions, and the many other forms of bleeding such as cerebral hemorrhage which take place throughout the body.

The bleeding state of Spontaneous Hemorrhage is analogous to the bleeding phase of the menstrual cycle and the organism can and most often does arrest the bleeding by itself. But it does not always do so, and when this mechanism fails, then an effort should be made to duplicate the arresting process. In the menstrual cycle, it is thought that the rise in circulating estrogen is one large factor in this process and clinically I have found innumerable times that large doses of estrogen have a tremendous salutory effect on the bleeding and most often will bring about its cessation in a comparatively short time. It is not infallible but is superior to methods now commonly employed to arrest this kind of hemorrhage. These methods consider only the source of bleeding and not the cause. Certainly the uterus should not always be removed just because it is the obvious source of so-called functional uterine bleeding.

Regardless of the disease, whether it is what is now considered a true hemorrhagic disorder or not, no patient bleeds all the time; and there are patients with a true hemorrhagic disorder who will not always

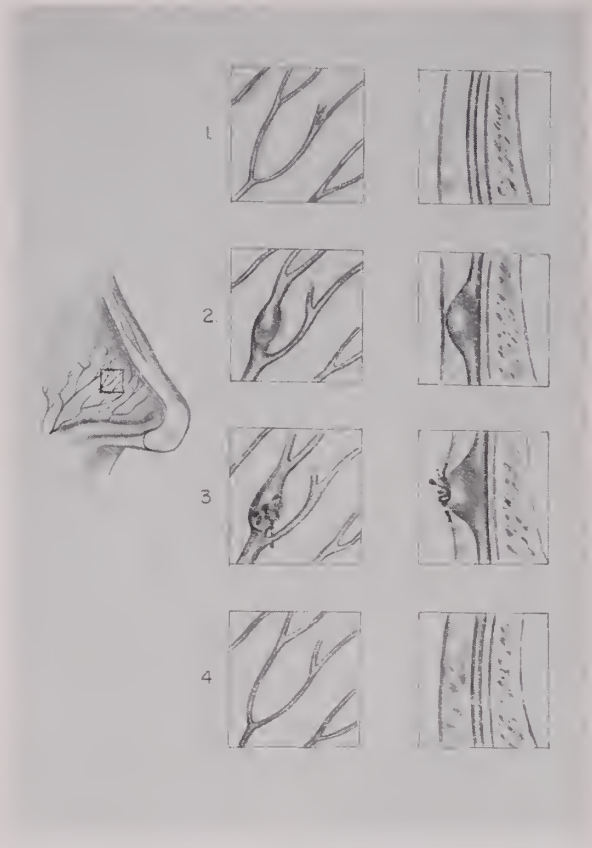

Fig. 10—Author's conception of the mechanism of epistaxis (diagrammatic). 1. Front and side views of vessels on one side of the septum are intended to portray them to be normal. 2. The vascular toxin invades the septum and engorgement begins. One group enlarges more than the rest. An aneurysmal dilatation develops in one vessel and the epithelium over it is destroyed just as in the esophagus. 3. Erosion is complete and hemorrhage occurs. The open vessel often has a crater-like appearance which is quite different from a traumatic aperture. 4. Not many hours after the bleeding stops or is arrested with intravenous estrogen the vessels return to their normal state, the aperture disappears and the turbulent hemorrhagic activity completely subsides. When a nasal branch of the palantine artery bleeds, the process is similar to that which occurs in the stomach. This process must vary according to the structure of the vessels, their positions and the organs they serve.

bleed under the same circumstances. Therefore, if the bleeding state is not present, there will be no hemorrhage and if it is in operation, a hemorrhage will occur with or without trauma.

What are the changes that take place in the true hemophiliac which, after weeks or months of quiescence, precipitate a hemorrhage into a joint; or, as in a recent case, what caused a sudden hemorrhage into the knee joint of a soundly sleeping woman without such a disease? As far as I can discover, no attempt has been made to find the differences in a patient with either epistaxis or a hemorrhagic disorder when he is bleeding and when he is not bleeding. In women it would seem that during the bleeding phase of the menstrual cycle, changes more fundamental than increased capillary fragility are involved.

The return of the bleeding state determines the resumption of the hemorrhage. If one lesion has been eliminated, another will be created as so often happens in bleeding peptic ulcer. The spontaneous bleeder does not have a true hemorrhagic disorder and the bleeding will be confined to the lesions since wounds made to reach them do not bleed more than is expected and usually heal without incident. The bleeding state in a recognized hemorrhagic disorder may not be due to estrogen deprivation but a change of some kind must occur to induce bleeding and it can still be an unknown hormonal imbalance.

The concept of the bleeding state which sometimes lasts for days can be a valuable clinical tool, particularly when one is confronted by a gastrointestinal hemorrhage of unknown origin. Since the source can be anywhere from the lips to the anus, combating the hemorrhage by utilizing the principle of converting the bleeding state into the non-bleeding state should be the cardinal objective as the following case demonstrates: E.J., a 51 year old man and a known cirrhotic, came to the emergency room with profuse epistaxis. After two doses of 20 mg. of intravenous estrogen an hour apart, the bleeding stopped and he was sent home. Nine months later he was brought to the hospital with an exsanguinating hemorrhage from the anus and in severe shock. Twenty mg. of estrogen was given intravenously and since it was thought that a substantial part of this dose would be lost in the hemorrhage, another 20 mg. was combined with 500 cc. of D 5 water and allowed to run as fast as it would go. The shock cleared rapidly and the bleeding stopped in about 30 minutes. Four hours later, while he was receiving a

tranfusion, bleeding started again but was quickly controlled with another dose put into the transfusion tube. Subsequent x-ray studies disclosed extensive diverticulosis of the entire descending colon which was considered to be the source of bleeding. Although the bleeding had stopped, he was given additional doses of intravenous estrogen because his restlessness and rapid pulse indicated he was still in the bleeding state. The blood loss was made up rapidly without transfusions and he has not bled again in a year.

That bleeding will be the inevitable result of the return of the bleeding state is illustrated by the case of a 30 year old woman who underwent total hysterectomy. During the preceding 10 years she had had a long series of operations: a Manchester procedure for total prolapse, amputation of the cervix on two occasions, repair of an incisional hernia and two cesarean sections. The hysterectomy was accomplished without difficulty but it was decided that unusual precautions would be taken against postoperative bleeding. This decision was made because of the obviously poor constitutional quality and the laxity of all the pelvic structures, and perhaps was influenced by attention to the problems of bleeding for many years. Accordingly, in addition to the usual measures, a continuous running suture was inserted all around the cuff eliminating the narrow gap between the mucous membrane and the fascias, the vault was closed with several mattress sutures, the broad and round ligaments were united in the midline and then attached to the vault and the whole covered with the uterine vesical fold. The raw edge of the cuff containing vessels although sutured was deliberately kept out of the vagina. Nevertheless, on the seventh day, the usual interval for delayed hemorrhage, profuse bleeding began from a granulomatous area around the cuff. Bleeding was controlled with two injections of intravenous estrogen several hours apart assisted by a small pack. There was no infection and no sloughing. This area already was the target for bleeding for one of the indications for operation was profuse and prolonged menorrhagia. The abdominal wound healed perfectly.

The Mechanism of Bleeding

When then is the mechanism of bleeding? Why do vessels open by themselves, expel a much larger volume of blood than they are capable of carrying normally, then close and finally disappear without leaving a trace of their former hemorrhagic turbulence? That phenomenon can be seen easily in the nose and will be applied to a bleeding peptic ulcer. This comparison is not as fanciful as it at first appears.

Assuming that the bleeding state is developing and the point of accumulation of the toxin is on the septum, the area at that point becomes congested and one vessel will enlarge more than the rest until it acquires an aneurysmal-like dilatation. The mucous membrane over it also is attacked and its destruction begins to pave the way for bleeding. This destruction of epithelium at a potential bleeding site also can be seen in the esophagus over large varices. Thus both the vessel and the mucous membrane have been subjected to the attack of the toxin. When necrosis is complete, the hemorrhage begins. The volume of blood that is expelled, not escapes, is sometimes so large that one wonders how this large quantity can be forced out of vessels that normally are incapable of transporting so much blood. Traumatic bleeding from the nose is seldom so severe.

The expulsive forces can be so great that the ordinary measures that assure the control of traumatic bleeding utterly fail here. Finally, the arresting process begins, the bleeding subsides and then another strange phenomenon occurs—this whole process, the dilated vessels, the injected and congested mucous membrane and the aperture itself disappears without a vestige unless many repetitions of this process leave the vessel somewhat telangiectatic.

When applied to bleeding peptic ulcer, these observations of facts become figments of the imagination. But there are some realities that cannot be overlooked. First, the vessels of the bleeding ulcer have no endothelial hypertrophy and hence have been subjected to an attack that must differ substantially from that on the non-bleeding vessel of an inflammatory ulcer. Second, aneurysmal dilatation of the vessel wall indicates that the attack has been from within and included the overlying mucous membrane; and third, it is not unusual for the whole process to disappear without a trace as so many surgeons, frantically searching for a bleeding point, know so well. For that reason empirical subtotal gastrectomy has become an accepted procedure.

The toxin then is the principal malefactor according to this concept and its detection, prevention and neutralization should be among the objectives of investigation. The biochemistry involved must be extremely complex but some light on it has been brought by Smith and Smith[13] and by Macht.[14] This toxin must produce a chemical inflammatory process. If so, the cooling device of Wagensteen[15] and his group is entirely reasonable. It should prove to be a valuable measure in arresting the bleeding not only through reducing the hyperemia but also by acting as an inhibitor on the inflammatory reaction created by the destructive toxin. Hypotensive agents also may be useful. I have stated elsewhere that coagulation has little effect on the arrest of this hemorrhage and does not come into play until the bleeding virtually has stopped. I am still of this opinion.

Comment

It follows that every hemorrhage from the gastric mucosa, except the infrequent cases of hemorrhagic gastritis and similar diseases, must be though an ulcer but every ulcer need not bleed. Even hemorrhagic and erosive gastritis may be a form of spontaneous bleeding because it has been successfully treated with hormones. I believe that the blood escapes from minute ruptures in dilated capillaries, not by diapedesis. Every hemorrhage through a mucous membrane must be through an interruption of its surface and this includes bleeding from varicosities of the esophagus, idiopathic bleeding from the genito-urinary tract and the bronchi as well as the nose. Sometimes the bleeding is so explosive that it tears the weakened overlying membrane and these can be seen in the minority of cases of epistaxis and esophageal varices.[16] Even the severe hemorrhages from rupture of varices in the legs are not often due to trauma.

Much of the confusing data, inconsistent results and contradictory advice all stem from misconceptions regarding spontaneous bleeding. One is the failure to recognize that it is a systemic, not a local disease. Another, already mentioned, is that coagulation is the principal agent which arrests the hemorrhage and that efforts to promote it are important. One feature of Spontaneous Hemorrhage is the normality of the blood as far as the hemostatic factors are known now and coagulation often interferes with finding the bleeding point, especially in the nose. Yet it does not stop the bleeding. A third is that this bleeding is the result of open vessels at the bleeding site, and therefore its treatment should be that for arresting traumatic or surgical hemorrhage. Only recently have other investigators observed that the massiveness of the bleeding is out of all proportion to the lesion or the blood pressure.

Not enough notice has been taken of the likelihood that the endocrine system may have the paramount role in bleeding from peptic ulcers as well as other forms of spontaneous bleeding. The successful treatment of so many of these hemorrhages with hormones, especially intravenous estrogens, cannot be ascribed to good fortune or coincidence. Other hormones have also been used successfully, especially in hemorrhagic gastritis[17,18] and hemorrhage from esophageal varices.[19,20] That surgery sometimes is necessary does not invalidate this belief.

But surgery removes only the immediate threat and does not cure the disease, for recurrence of bleeding is all too common to be ignored. I have maintained that the bleeding is hormonal in origin and not necessarily due to estrogen deficiency alone. It may be that the action of these substances may not be truly hormonal. Until another action can be demonstrated, the only tenable assumption now is that they function as replacement therapy or else neutralize the vascular toxin I have postulated.

Moreover research on estrogenic substances is still in its infancy. Falconer and Quinn,[21] in a controlled experiment on the effect of placental implants on peripheral vascular diseases, concluded that these implants, which are rich in natural estrogens, produced a degree of subjective improvement that could not be attained with ethinylestradiol. Estrogen cannot be considered to be one compound, and the placenta may contain an infinite variety of its molecules.

Spontaneous Hemorrhage is not an accident but a designated objective just as much as bleeding associated with the shedding of the endometrium. It is my conclusion that the human organism has the capacity to prepare a bleeding state, create a lesion specifically for the escape of blood, and then can dissipate this whole process. This conclusion is not in accord with present thinking. It is easier to comprehend and much more plausible to believe that nosebleeding, although associated with many diseases, in the great majority of instances has no pathologic basis and is just an ordinary innocuous phenomenon that is a nuisance and does not deserve serious consideration; that delayed post-tonsillectomy bleeding is the result of infection or sloughing; that hemorrhoidal bleeding is due to stasis, pressure and constipation, that hemorrhage into the walls of arteries is just incidental to the presence of atheromatous plaques; and that an ulcer bleeds because a vessel in its base has been penetrated.

Numerous conditions such as epistaxis, cerebral hemorrhage, gastro-intestinal bleeding, intra-ocular hemorrhage, coronary thrombosis arising from subintimal bleeding and many others have hemorrhage as a common factor without any discernible blood changes. Hemorrhages associated with debilitating and asthenic diseases cannot be excluded. All of these conditions now are considered to be and are treated as separate diseases.

I have advanced the theory that they may be due to a single disease which is hormonal in origin. This theory is based on the successful empirical treatment of spontaneous bleeding with hormones. Proof of the validity of this theory must await the discovery of the specific endocrine imbalance which produces it and the invention of suitable tests to discover the presence of the toxin. Meanwhile hormonal therapy has proved to be a valuable although not infallible adjunct for controlling most of these hemorrhages.

Summary

The purposes of this article are to challenge the prevailing belief that bleeding peptic ulcer and peptic ulcer are forms of the same disease and to advance the theory that such bleeding is independent of the ulcer and is a form of Spontaneous Hemorrhage. Conflicting and confusing conclusions on the origin and treatment of the bleeding has created controversy as to the proper course to pursue. Even the incidence of hemorrhage associated with peptic ulcer is almost impossible to ascertain.

Changes in the vessels in the bases of the ulcers are seldom described. In bleeding ulcers there is little or no change while those of non-bleeding ulcers are obstructed, not by a thrombus, but by endothelial hypertrophy. Hence something about these ulcers must stimulate the production of endothelium in one kind and inhibit it in another. In bleeding peptic ulcer the pathology indicates that the attack on the vessel is from within and not from without. Cases are pre-

sented to demonstrate that the bleeding may be hormonal in origin and its arrest can be accomplished except when large vessels are

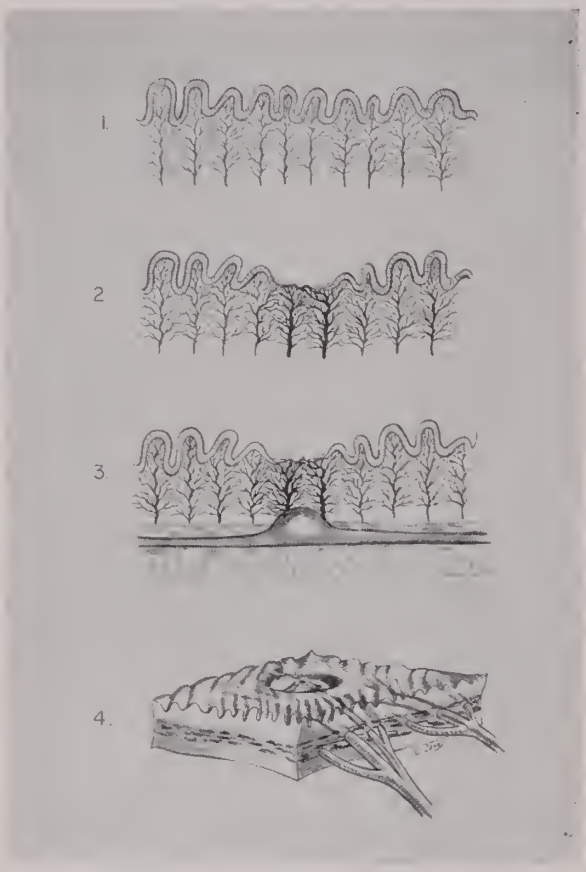

Fig. 11—Author's conception of the mechanism of bleeding peptic ulcer (diagrammatic). 1. The normal mucosa with its circulation. 2. The vascular toxin invades the area destined to become the ulcer and necrosis of the epithelium begins just as happens in the esophagus and nose. Just how a bleeding site anywhere is selected is a mystery. 3. The destruction continues and the aneurysmal dilatation of a vessel begins. 4. The aneurysmal dilatation is now open and bleeding as in Fig. 8. At this point acid-peptic digestion mav accelerate the destruction of the vessel wall.

bleeding by the administration of suitable hormones, preferably intravenous estrogens, but not by coagulation.

Spontaneous Hemorrhage is considered to be due to endocrine changes analogous to those which precipitate the bleeding phase of the menstrual cycle and is the result of the attack of a vascular toxin on the vessels and the overlying mucosa. These changes create a bleeding state during which hemorrhage will occur. If a suitable lesion is not in existence then one will be made for this purpose. Bleeding peptic ulcer can be one of these lesions.

Two misconceptions regarding bleeding peptic ulcer are (1) that coagulation plays a major role in arresting the bleeding, and (2) that the treatment of traumatic and surgical hemorrhage is adequate for the permanent control of this kind of bleeding.

The concept of the bleeding state can be a valuable clinical tool; and hormonal therapy to convert it to the non-bleeding state has many advantages and no disadvantages. Failure is one indication for surgical intervention since it usually indicates that vessels too large to be controlled by any measure short of ligation are bleeding.

The estrogen used in this study was Intravenous Premarin, Ayerst Laboratories, N. Y.

References

1. Editorial Comment, Year Book of Medicine, 1959-1960, Year Book Publishers, Chicago, Ill., p. 497.
2. Editorial, Bleeding and Clotting Times. J.A.M.A. 172: 1, 64 (Jan. 2, 1960).
3. Lewison, E. F.: Bleeding Peptic Ulcer, Collective Review. Int. Abs. Surgery, In Surg., Gynec. & Obst., Jan. 1950.
4. Jacobson, P.: Spontaneous Hemorrhage, A Clinical Entity, With Special Reference to Epistaxis. A.M.A. Arch. Otol. 59: 5, 523, May 1954.
5. Jacobson, P.: A Unified Concept of Spontaneous Bleeding. West. J. Surg., Obst. & Gynec. 63: 711, Dec. 1955.
6. Jacobson, P.: Hormonal Management of Spontaneous Hemorrhage. Virginia M. Monthly 84: 396-402, August 1957.
7. Jacobson, P.: Spontaneous Hemorrhage: A Clinical Entity, With Special Reference to the Bleeding State, Pathology and Hemostasis. Virginia M. Monthly 85: 548, Oct. 1958.
8. Garrido-Klinge, E. G. and Pena, L.: Gastroduodenal Ulcer in High Altitudes. Gastroenterology 37:4, 390, Oct. 1959.
9. Jellinek, H., Csillag, I., and Gergely, R.: A Comparison of the Experimental Results for Gastric Hemorrhage of Arterial Origin with Resection and Autopsy Material. Surg. Gynec. & Obst. 107: 495, 1958.
10. Karsner, H. T.: Human Pathology. J. B. Lippincott Co., Philadelphia 6th Ed., p. 475, 1952.
11. Donaldson, R. M., Handy, M. S. and Papper, S.: Five Year Follow-up Study of Patients with Bleeding Peptic Ulcer With and Without Surgery. New England J. Med. 259: 201 (July 31, 1958).

12. Ende, M. and Jacobson, P.: Treatment of Benign Hypertrophy of the Prostate with Estrogen Administered Intravenously. J. Am. Ger. Soc. 5: 676, 1957.

13. Smith, O. W., and Smith, G. V.: Recent Progress in Hormone Research. Academic Press, New York, Vol. 7, p. 209, 1952.

14. Macht, D. L.: Toxicological Note on the Blood and Urine of Menstruation and Other Forms of Bleeding from the Female Genitalia. Sinai Hosp. J. 5: 38, 1956.

15. Wagensteen, O. H., Root, H. D., Salmon, P. A., and Griffin, W. O., Jr.: Depressant Action of Local Gastric Hypothermia on Gastric Digestion; Use in Control of Massive Hematemesis. J.A.M.A. 169: 1601 (April 4, 1959).

16. Child, G. C. and Donovan, A. J.: Current Problems in the Management of Patients with Portal Hypertension. J.A.M.A. 163: 1219: 1957.

17. Meredith, H. C., Jr. and Rector, G. H. M.: Acute Hemorrhagic Gastritis Probably Controlled by the Corticosteriods. Gastroenterology 34: 325, 1958.

18. Deutsch, E., Todd, J. J., and Hayward, R. M.: ACTH and Cortisone Therapy for Recurrent Massive Hemorrhage after Subtotal Gastrectomy. New England J. Med. 254: 363, 1956.

19. Schwartz, S. I., Bales, H. W., Emerson, G. L. and Mahoney, E. B.: The Use of Intravenous Pituitrin in the Treatment of Bleeding Esophageal Varices. Surgery 45: 172, 1959.

20. Schwartz, S. I.: The Management of Acute Bleeding from Esophageal Varices, New York State J. Med. 59: 3584 (Oct. 1959).

21. Falconer, C. W. A., and Gunn, A. A.: Placental Implantation for Peripheral Vascular Disease. British Med. J. 5151: 538 (Sept. 26, 1959).

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Platinum Blonde Bleaching

The extreme degree to which hydrogen peroxide bleaching must be carried out to render the hair platinum blonde "usually makes the hair dangerously brittle," according to the Journal of American Medical Association.

The effects of hydrogen peroxide was discussed by Veronica L. Conley, Ph.D., director of the A.M.A. department of nursing, in answer to a question submitted to the Journal.

"Adverse reactions to bleaching of the hair are primarily limited to the hair shaft itself. Future growth and inherent physical characteristics are not affected. Skin reactions may occur in some persons, but reported cases are few in comparison with the large number who bleach their hair. Bleaching damages the hair because the hydrogen peroxide must penetrate to the cortex of the hair where the hair pigment is located. In so doing, it often leaves the hair dry, brittle, and more absorbent. The extent of hair damage depends on several variables, one of which is the degree of bleaching. For example, the extreme degree to which bleaching must be carried out to render the hair platinum blonde usually makes the hair dangerously brittle.

"Furthermore, a recent study has demonstrated that when hair is bleached, the ensuing damage does not stop with the process. With each shampoo certain decomposition products and oxidized pigments are extracted from the hair shaft and damage recurs."

The exact nature of the damage is unknown which "accounts at least in part for the lack of methods to protect the hair against the deleterious effects of hydrogen peroxide."

Hearing Loss, Mastoidectomy and Tympanoplasty

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There are several surgical procedures for dealing with infection in the middle ear and mastoid. In most cases the hearing need not be lost.

THE PURPOSE of this presentation is to point out a conservative approach to the conservation and restoration of hearing in mastoidectomy and tympanoplasty.

In recurrent middle ear infection where a low grade mastoiditis recurs, or in early mastoid disease, a simple mastoidectomy may be all that is necessary to eradicate infection and restore the middle ear to normal. In the more severe forms of mastoid disease, perhaps a simple mastoidectomy would not be adequate. For this the Bondy Method of modified radical mastoidectomy offers a very sensible and conservative approach to a complete eradication of the mastoid. It has been my practice too, in addition to the Bondy operation[1] which is a modified radical mastoidectomy procedure, to skin graft the cavity. Initially, partial thickness skin grafts[2] were used, obtained from the hip as a donor site. However, experience has shown where partial thickness skin grafts are placed over the mastoid there is at times a tendency to ulcerate with a resulting wet surface. This is annoying to the patient and embarrassing to the surgeon and may necessitate a secondary skin graft procedure.

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After four or five years experience with this technique, the whole thickness skin graft[9] obtained from the postauricular region was used with improved results. If the skin graft can be made to take, the mastoid cavity will heal very quickly with a dry surface which needs minimal care. The whole thickness skin seems to withstand trauma and infection better than a partial thickness graft. Perhaps the patient will be seen every six months or at longer periods for simple cleansing of dead skin and debris. The concept of the Bondy operation, of course, does

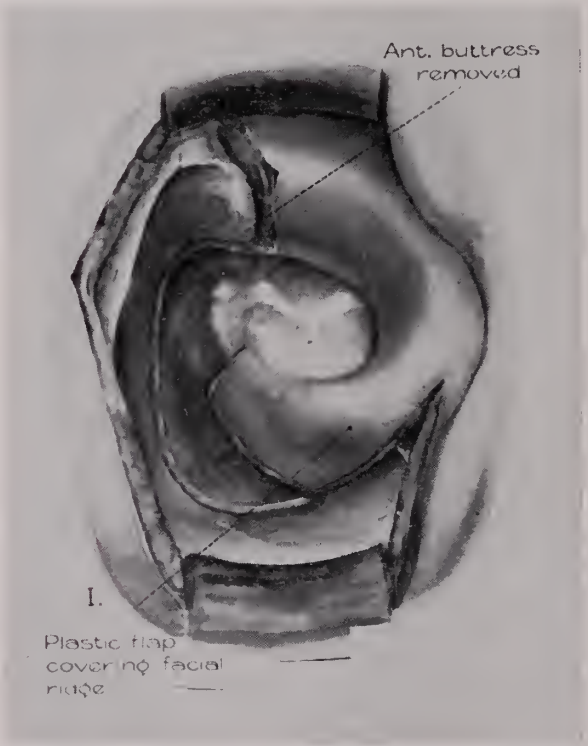

Fig. 1—Bondy type of mastoidectomy. From Shambaugh Surgery of the Ear. By permission of Dr. George E. Shambaugh and the Saunders Publishing Company.

not allow surgery within the middle ear. The structures are left as they were with a clean-up of the mastoid. This is very con-

servative surgery and has been most beneficial.

In the event a cholesteatoma pocket is encountered, without much extension, the cholesteatoma may be removed in the lateral and superior surface of the tympanic cavity without going further into the middle ear, Juers.[3] If the cholesteatoma is completely eradicated a good result can be obtained. In other cases a little more advanced, this matrix of cholesteatoma may have invaded the middle ear cavity so as not to allow a complete exenteration. We may utilize the methods of Juers,[3,4] a tympanopexy combined with the modified radical mastoid in order to obtain a good hearing result. In this way there is minimal disturbance of the tympanic cavity.

The utilization of all functioning parts of the ossicular chain may be preserved provided the cholesteatoma matrix exists in an exteriorized state. Drum remains or skin graft may then be used in continuity to restore the covering for the tympanic cavity. Non-functioning parts may be sacrificed, namely the malleus, or malleus and incus, to create a tympanoincudopexy or as tympanostapedopexy.

When cholesteatoma is extensive and cannot be removed without sacrifice of the ossicles, a radical mastoidectomy is indicated. This, of course, would require the removal of all the lining of the tympanic cavity, along with the tympanic membrane, the malleous and the incus, leaving the stapes in place. If properly performed, without covering the stapes, quite frequently surprising results may be obtained with a hearing result at the sixty-five percent level. Such results sometimes occurred before the operating microscope came into vogue and the exact mechanism was poorly understood. The patient was customarily told the hearing would be completely eradicated by this radical surgery.

In 1957 at the Sixth International Congress of Otolaryngology in Washington, D. C. attention was called to the reconstructive surgery of the tympanic cavity, tympanoplasty, by Zollner[5] and Wullstein[6] of Germany. Zollner had published an article on this subject in 1955 and Wullstein in 1956. Wullstein showed how the middle ear could be rebuilt by plastic surgery. He defined and illustrated five types of this operation. The new concept of rebuilding the tympanic cavity was received with interest in this

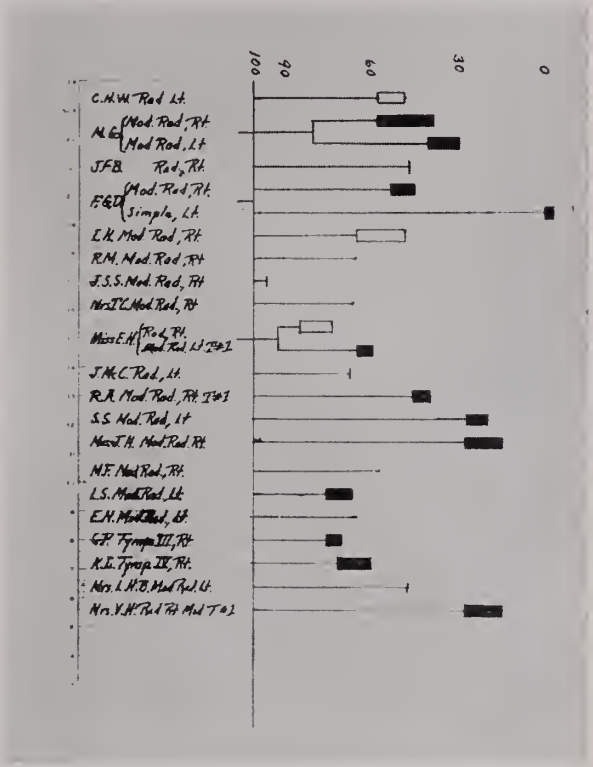

Fig. 2—Methods of handling cholesteotoma cases as illustrated by Bruce Proctor.
a. Line with T, results same before and after surgery.
b. Line with dark filled space represents degree of improvement
c. Line with hollow filled space represents degree of loss
d. Other designations represent incomplete cases.

country.[7,8,9,10,11] Type I, tympanoplasty or myringoplasty is a simple repair of a perforation in the tympanic membrane. A surgical repair of a perforation may be performed via the external ear canal by a removal of the outer lining of the ear drum and adjacent tissues of the external ear canal and replacement by a whole thickness of skin obtained from behind the ear. A simple pack of gelfoam soaked in penicillin is used and allowed to come away of its own accord.

The results of this technique have been excellent with a retention of the hearing at about the same level as before. Many are as good and some have improved above the

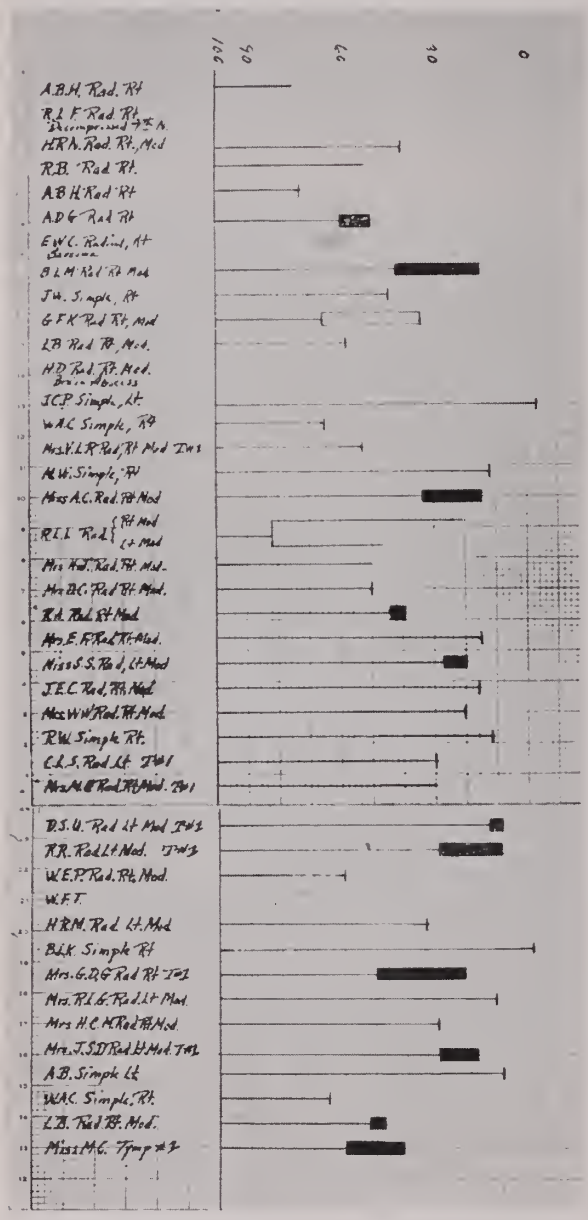

Fig. 3—Method of dealing with cases other than cholesteotoma.

expectations of the surgeon. Where the destruction is more extensive, a type II tympanoplasty is used, the malleus and tympanic membrane may be removed, with a clean-up of the tympanic cavity below this point with a functioning incus and stapes. Here the skin graft may be placed directly over the incus and the hearing restored to a remarkable degree. Type III is used when the incus is involved in the pathologic process and must be sacrificed. The drum, malleus and incus are then removed with placement of the skin graft touching the head of the stapes. This will also give good hearing results. Type IV, in the event that the stapes is also involved in the pathologic process, it is possible to remove the stapes and place a skin graft with a split or defect over the oval window area and obtain a good result. Type V, the final method is accomplished by a skin graft at the mastoid cavity with no effort to use the oval window. The round window is preserved in the newly created tympanic cavity. After complete healing, a fenestration of the semicircular canal is performed.

References

1. Shambaugh: Surgery of the Ear, pp. 255-259.
2. Farrior, T. Brown: The Radical Mastoidectomy. Surg., Gynec. & Obst. 89: 328-334.
3. Juers, Arthur: Modified Radical Mastoidectomy; Indications and Results. AMA Archives 57: 245, March 1953.
4. Juers, A. L.: Preservation of Hearing in Surgery for Chronic Ear Disorders; A Consideration of Factors Involved. Laryngoscope 64: 235-251, April 1954.
5. Zollner, F.: The Principles of Plastic Surgery of the Sound Conducting Apparatus. J. Laryng. & Otol. 69: 637-652, October 1955.
6. Wullstein, Horst: Theory and Practice of Tympanoplasty. Laryngoscope 66: 1076-1093, August 1956.
7. Goodhill: The Surgical Physiology of Tympanoplasty. Laryngoscope 68: 1455-1492, August 1958.
8. Proctor, Bruce: Results in Tympanoplasty. Laryngscope 68: 888-899, May 1958.
9. Gilford, Fred R. and Wright, Wm. K.: Basic Techniques of Myringoplasty and Tympanoplasty, Laryngoscope 68: 825-838, May 1958.
10. Schucknecht, H. F. and Stanley Oleksiuk: Tympanoplasty: Laryngoscope 69: 614-642, June 1959.

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Sympathetic Ophthalmia

Case Report

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Adrenocortical steroids offer a chance for cure in sympathetic ophthalmia. Treatment, however, may have to be continued for years.

WHAT IS NOW known as Sympathetic Ophthalmia was first described by MacKenzie in 1835. Loss of eyes from this disease was approximately fifty percent until the advent of steroid therapy about eight years ago. Numerous case reports indicate that there has been excellent response to the newer drugs. I wish to present a case, now under treatment, which is unusual in duration.

Case Report

The patient, R.B., a seven-year-old boy, who, while playing with a kitchen knife on August 24, 1953, struck the right eye. When first seen the next morning there was a laceration through the cornea from 3 to 5 o'clock just inside the limbus. The patient was admitted to the hospital that day: the cornea sutured edge to edge with 6-0 silk. No iris was excised. No immediate complication arose: the sutures came out spontaneously and on the 17th day the vision was 20/60. On September 18th, 25 days after the injury, the reaction was less; aqueous clear; slight pigment deposits on the posterior lens capsule and decreasing vitreous opacities. Local medication only was being used. Two weeks later, six weeks after injury, the injured eye showed no greater ciliary redness, though the aqueous ray was 2 plus with "KP", pigment on posterior lens capsule and more vitreous opacities. Hyoscine and cortisone drops were continued locally.

The patient was not brought to the office at the next appointed time, then I was out of town one week, so I did not see him until 17 days later. At this time the injured eye was little changed, however, due to irritation of the other eye, the parent had used the same drops in it. The uninjured eye was (eight weeks after injury) a definite sympathetic ophthalmia as indicated by ciliary redness, aqueous flare, slight "KP", posterior synechae and hazy vitreous.

Consultation with Dr. B. R. Kennon was obtained and it was agreed after hospitalization that ACTH and Cortisone should be given and, due to the deterioration of the injured eye, enucleation would probably be done early. Instead, the patient was immediately sent to Dr. John H. Dunnington. Cortisone by mouth and local medication were given while awaiting hospitalization in New York.

At the Eye Institute, beginning October 20, 1953, ACTH 30 mg. intramuscularly every six hours was given for six days with no improvement. On October 26th 15 mg. ACTH intravenously as a daily dose was substituted for four days with improvement. After three more days on the same dose there was a relapse, therefore the intravenous daily dose was increased to 20 mg. with improvement. On November 13th, 24 days after treatment was begun, the ACTH was replaced by Cortisone 50 mg. daily, this being

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reduced to 40 mg. a day 10 days later. Hydrocortisone and atropine drops were constantly used as was Terramycin 50 mg. every six hours. Penicillin and sulfadiazine were prescribed for bronchitis just before leaving the hospital.

On November 30, 1953 (41 days later) the patient returned home with the recommendation that the injured eye be enucleated. At that time the injured eye was soft (phthisis); vessels had grown into the iris; there was a posterior partial subcapsular cataract. The aqueous ray was only faintly positive; vision 20/400. The sympathizing eye was white, pupil dilated, one synechia (posterior), a few pigment spots on the anterior lens capsule; slight "KP", aqueous ray negative; vitreous clear; vision 20/20.

Enucleation of the injured eye was performed on December 3, 1953. The diagnosis was confirmed by the Eye Institute in New York City.

Due to a positive aqueous ray, local medication, supplemented by Hydrocortisone by mouth, had to be continued in maintenance doses. The patient was seen by Dr. Kennon in March 1954, by Dr. Dunnington in July 1954 and, at Dr. Dunnington's suggestion, by Dr. Alan Woods in September 1954, all considered the progress as satisfactory.

The patient continued school with a bifocal lens as long as the pupil was dilated. By May 1955 the maintenance dose was Meticorten 2½ mg. B.I.D. By July 1956 Meticorten 1 mg. B.I.D. without local medication kept the eye quiescent. Repeatedly medication has been decreased, also local medication alone tried, but Meticorten 1 mg. B.I.D. is the minimum dose to date that will keep the aqueous free of cells. Treatment has been continued for six years and eight months.

Potassium and vitamins were given following enucleation and until all swelling of the face subsided. The patient has shown normal weight growth and physical activity with no loss of time in school since 1954.

Comments

1. In retrospect—should the injured eye, six weeks after injury, when the signs of uveitis increased, have been enucleated? I do not know the answer to this question. The perforating injury apparently limited to the cornea with rapid improvement for six weeks was encouraging, though statistics indicate the greatest number of cases occur between four and eight weeks.

2. Should prophylactic treatment have been given in the form of steroid therapy and antibiotics? McLean[1] reported a case where such drugs were ineffective, thus concluded this therapy neither dependable nor justified. Several additional cases not yet published supplement this conclusion.[2]

3. Would earlier enucleation after diagnosis have been beneficial? This is doubtful. After uveitis has already developed in the sympathizing eye early removal of the exciting (injured) eye appears to have no beneficial effect.

4. Is the present minimal maintenance dose the proper therapy at present? Woods[3] says that when the minimal maintenance dose has been determined, topically and/or orally, it may be continued many months or as long as necessary, with occasional rest periods and injections of corticotropin to stimulate a depressed adrenal cortex.

5. Why is this case being reported?

In reviewing the literature, since the use of steroids in sympathetic ophthalmia, numerous cases have been reported cured with ACTH and Cortisone. Sturman[4] reported a case cured after almost two years of treatment. Crawford[5] reported a case cured after treatment for over four years.

I am unable to find a report of a case of this duration (six years and eight months) and this patient is not yet cured. In view of the absence of side effects from the drug I see no choice but to continue a maintenance dose of a cortisone-type drug as an anti-inflammatory agent for an indefinite time. It is hoped that this case will emphasize the necessity for constant and long continued

therapy in some cases of sympathetic ophthalmia.

References

1. McLean, J. M.: Steroid Prophylaxis in Sympathetic Ophthalmia. Am. J. Ophthal. 45: 162-164, April 1958 Part II.
2. McLean, J. M.: Personal Communication.
3. Woods, Alan C. Endogenous Uveitis. The Williams-Wilkins Co.
4. Sturman, Robert M. Sympathetic Ophthalmia Caused by Cortisone and ACTH. E. E. N. and T. Mo. 35: 372-375, June 1956.
5. Crawford, John S. Sympathetic Ophthalmia Am. J. Ophthal. 44: 412-415, September 1957.

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Diseases of Famous Writers—or Diagnosis in Absentia

The Medical Library of the University of Virginia is exhibiting articles about the diseases of famous authors written by physicians who for the most part are diagnosing patients who lived in a different era. Some of these writers have been dead for a century or more. The exhibit will be shown until the middle of January.

The ailments are collected from the authors' writings or from biographies written about these men. In other words, the case report is taken from old writings, not in personal interviews with the patient. The value of case reports is clearly shown if a man living today can diagnose a patient who died before that physician was born—by reading of the vicissitudes of a past generation. Writers, with their gift or developed skills in describing situations, would be expected to furnish the necessary clues for this interesting exhibition of a physician's skill in diagnosis. Many of these patients were diagnosed correctly or incorrectly? by a physician long ago.

Some of our diagnosticians hedge a bit, and some are on more firm ground. Everyone knows rightly or wrongly that certain writers were tuberculous, alcoholic or neurotic individuals. The interesting thing is that many physicians are so interested in what made these writers tick that they will go to great trouble to write up the cases. Editors of medical journals know that other physicians are also interested in such articles and publish these accounts. Journals which publish this type of material include *The Journal of the American Medical Association*, the *Eye, Ear, Nose and Throat Monthly, Psychoanalysis, American Journal of Psychiatry, Laval Médical*, and the *Proceedings of the Royal Society of Medicine*. A whole set of books called *Biographic Clinics* came out at the beginning of the century, and the physician, Dr. Noah D. Fabricant, has published a volume on this subject recently.

Some of the literary persons covered in our exhibit are Proust, Samuel Johnson, Joseph Conrad, Robert Burns, Maupassant, Balzac, Thoreau, Oscar Wilde, Whittier, DeQuincey, James Joyce, Katherine Mansfield, Ezra Pound, Flaubert, E. A. Poe, and Thomas Wolfe. Some of the articles are available for browsing in order that those interested may read them while the exhibit is in progress.

School Vision Testing

Experiences and Lessons of a Two-Year Study

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Richmond, Virginia

This report is of interest to all those concerned with the health program in the schools. It also demonstrates the good results that can be expected from cooperation between organized medicine and the school authorities.

IN THE SPRING of 1958 the Richmond Eye, Ear, Nose and Throat Society appointed a committee including Dr. E. W. Perkins, Dr. Mason Smith and myself to study the problem of school vision screening tests and to offer our advice based on the results of these studies to the school authorities in the Richmond Public School System. The Society and the committee were motivated by their conviction that ophthalmology bears a public trust to protect the public welfare and interests so far as ocular health and vision are concerned. This obligation extends to the discovery and correction of visual and ocular defects in public school children. Therefore, it was their purpose to offer their services to the public school physicians and nurses by recommending a satisfactory screening test and by training personnel in the administration of these tests. Furthermore, it was necessary to establish definite criteria for referral on the basis of these tests in order to refer the highest possible number of children actually needing eye care and the lowest possible number of false positive cases.

To begin with, the committee studied the methods and results of vision testing in a high school, a junior high school, and an elementary school in the City of Richmond, Virginia. The results were tabulated as to percentages of spread of various visual acuities, percentage of total referrals and percentage of positive referrals. These results were then compared to extensive and carefully controlled surveys published in ophthalmological journals and by similar societies in other states. Following are selected data from this study which were very valuable to us, and which should be studied by similar committees in other communities:

Sources and Data Regarding School Vision Testing

We were in correspondence with Franklin M. Foote, executive director of the National Society for the Prevention of Blindness who very kindly supplied publications dealing with the subject of school vision testing and in addition made the following recommendations:

1. Fundamentally recommend the Snellen Chart test at 20 feet.
2. If more extensive testing is to be undertaken, the Massachusetts Vision Test (which incorporates the Snellen E's) is recommended.
3. Later on, the tests for muscle balance and the plus lens test for hyperopia can be added after the program is well under way.

Doctors Foote and Crane stated the following in their publication "An Evaluation

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of Visual Screening": "It will be noted that the more complicated methods of vision testing, such as the Bausch and Lomb Orthorator, American Optical Company Sight Screener and Keystone Telebinocular gave an unduly large number of over-referrals. The combination of a high standard Snellen test and the teacher observation seem to provide the most practical method of vision screening."[1] They also present the following information:

The Snellen high standard test referred 20% of sixth grade children. Of this number 14 were correct and six incorrect. The binocular vision testing devices mentioned above referred 54% to 61% of the 600 children tested. Of these, 23-25% were correct and 31-38% were incorrect, an error of 60 to 70% of those referred. Examination by an oculist referred 31% all of which were correct.

These figures clearly indicate that binocular testing devices refer five times as many incorrectly chosen children as the Snellen Test, a total of 30-40% more than should be referred. On page 10 of the same article is found the following quotation: "The three binocular stereoscopic testing batteries gave results that were so close that there was no real difference between them in efficiency. Although these tests gave the greatest proportion of correct referrals, they gave an even higher proportion of incorrect referrals, more than 30% of all the sixth grade students." On page 11, the following statement is found: "Great criticism from parents and from professional groups is heaped upon a school administrator or school health program when there is a high over-referral from any screening procedure. Failure to refer students who actually need the care of an eye specialist arouses less criticism because no one is aware that these children need care. The purpose of the screening program is to obtain care for as many as possible of the children who need it. In many programs, insufficient emphasis is given to follow up of screening tests and to seeing that the children are actually placed under care. A complicated screening test that takes extra time to administer and gives a high proportion of incorrect referrals is not appropriate in a program that provides only limited follow up service. Under these circumstances a simpler test that refers fewer children but gives few over referrals is definitely to be preferred. For young children the simpler tests are probably preferable in all screening programs. In either of these situations the Snellen test, combined with careful teacher observation, is recommended."

"An Evaluation of Methods of School Vision Screening" dated 1955 was obtained from Curtis D. Denton, Jr., M.D., of Fort Lauderdale, Florida. I quote from this report:

> "The sought for goal in visual screening of school children is a simple test that has a high percentage of accuracy in detecting eye defects and a low percentage of unnecessary referrals. The value of keeping 'false' referrals to a minimum is obvious. This very factor has caused the near break-down of visual school testing programs in several places throughout the country. Nothing makes parents more unhappy than the feeling that they have been forced to spend money needlessly.
>
> "None of these tests (that is, the binocular tests referred to above,) detected more than 80% of the significant abnormalities, and in general they found that the test which detected the highest percentage of children who needed referral also had the highest percentage of needless referrals. The sight screener, Orthorator and Telebinocular referred between 54 and 71% of all the children tested as contrasted with the ophthalmologist's failure rate of 27%. The incorrect referrals of these instruments outnumber the correct referrals 20% to 250%. The investigation also found that these tests required six times as long to administer as the Snellen Chart Test."

This report goes on to analyze the results in Florida of the application of the Snellen "E" Chart Test, the Massachusetts Vision Test, the Telebinocular Test, the plus 1.50 sphere test for hyperopia and the muscle balance test which is incorporated in the Massachusetts Vision Test and in the Telebinocular. It is of interest to quote the results of the muscle balance test with the telebinocular. "In my office in Broward County," Dr. Denton states, "I have found that 85% of the children referred by the Keystone Muscle Test had a muscle balance considered as normal by our present medical standards. The Telebinocular Muscle Test seemed entirely too difficult and critical for school children."

As a result of their studies, it was determined that the Snellen Distant Chart using the illiterate "E" was the most important test. The criteria established for referral were as follows:

1. For first and second grade children, 20/30 line should be considered passing.
2. For grades three through eight, 20/20 is considered passing.

The report goes on to recommend plus 2.50 diopter sphere test for hyperopia. They believe that muscle tests are too time consuming and too unreliable to justify the expense and time required for their administration, although 30% of the Florida ophthalmologists replied to a survey that they felt that some sort of muscle balance test is important in school survey work whereas 70% believed it to be of little importance.

Besides the above recommendations, "It was further recommended that all Telebinoculars be removed from school screening survey work."

Another report of a committee on school vision testing for the New England Ophthalmological Society and the Massachusetts Medical Society edited by Edwin B. Dunphy including Drs. Brendan D. Leahey, James J. Riggan, Albert E. Sloane, and Elton R. Yasuna was studied. This report recommended the following:

1. A school vision test should be given by a lay person who has been specially trained; this may be a teacher, a nurse or any other of the school personnel.
2. It is desirable that every child failing the school vision test should be given a reexamination before a note is sent home to the parents.
3. The test should be given annually.
4. The committee does not feel that is a good policy for an eye doctor to give the test for the following reasons:
   a. The mere fact that a doctor made the test and gave a passing report might give a false sense of security that all is well.
   b. Since the screening test is only a rough incomplete examination, there is no basis for such an inference being allowed, and if the test were given by a lay person, this danger would be avoided.
5. The committee feels that no note should be sent home which tells that a child has passed the test. Reports should be only of non-passing, and should not give any information other than that.
6. Standards of referral:
   a. All children up to but not including the fourth grade should be referred for examination in the event that they are unable to read the 20/40 line in their worst eye.
   b. Children from the fourth grade level and including the fourth grade level and up should be referred if they are unable to read the 20/30 line.

It is felt that this limit is not too strict in view of the fact that the committee recommended well illuminated charts and administration of the test by trained personnel.

   c. In those children up to but not including the fourth grade a plus 2.25 sphere is used as the minimal limit for hyperopia requiring referral.

That is, if a child cannot read 20/20 through a plus 2.25 sphere in each eye he shall be referred for further examination. In the group including the fourth grade the inability to read 20/20 through a plus 1.75 sphere shall constitute the basis for referral. The committee recommends that a heterophoria test be included in the school examination but that it be omitted in grades one through three. The criteria for referral in the distance phoria test shall be exophoria, over four, esophoria over six, hyperphoria over 1.25. Phoria tests for near are omitted for purpose of simplification, however, if some schools wish to include these tests as an extra or optional test (in grades four and over) referral is recommended for over eight exophoria for near, over six esophoria for near.

7. Any child who obviously appears to have eye difficulties or symptoms should be referred. Any child who has reading disability should be referred for examination, regardless of how he behaves with the school vision test.

The committee held that the Massachusetts Vision Test is at the present time acceptable, because it does include in its three parts all that is recommended by the committee. The committee feels that although tests for stereopsis, color vision and other binocular functions are often of great value, inclusion of such tests in a school vision program is not desirable at this time because:

a. It would increase the time necessary for the test.
b. It would increase the complexity of understanding the test when given by lay people.
c. It would lead to a larger number of unnecessary referrals.

Another report on the Massachusetts Vision Test by Albert E. Sloane[2] was reviewed, as was the report entitled "Visual Test Performance of School Children" by Hollis M. Leverette,[3] and another report by the same author.[4] There were also personal communications with Dr. William L. Benedict of Rochester, Minnesota, and Dr. Frank D. Costenbader of Washington, D. C., to inquire regarding the program in those two communities. The program instituted in Norfolk, Virginia, by Mr. Teasley Traylor of the Traylor Optical Company was studied as was the Atlantic Eye Test for phoria by Samuel Disken.

Recommendations

On the basis of these studies the following conclusions and recommendations were reached by our committee:

1. It was emphasized that the visual screening test is not a diagnostic examination and therefore no reports of passing the test should be issued.
2. It was noted that the objective of such a screening test is to *determine referrability and not visual acuity,* which is a diagnostic determination.
3. The criteria for referral were established as follows:
   20/20 on the illiterate "E" chart if the child is over 10 years of age or 20/30 if the child is under 10 years of age. This means at least four out of six letters are correctly determined.
4. If a child fails, he should be retested a day or so later and if he fails again with one or the other eye he should be referred.
5. Consequent to these criteria, it was advised that the 20/20 and 20/30 line (as is appropriate for the age of the child) be used *exclusively.* This eliminates wasted time determining whether a child is 20/60 or 20/40, for example, when in reality he is referrable whether he is either of these.
6. An internally illuminated chart was recommended.
7. Binocular stereoscopic tests were not recommended.
8. No testing of phorias is indicated since

only one to two per cent of children are referred by the best survey screening phoria test and most strabismus problems can be referred on the basis of teacher observation or failing the visual acuity test due to amblyopia from suppression.

9. It was emphasized that reading problems and ocular signs and symptoms supersede the results of the screening survey. That is, children with 20/20 vision should still be referred if they show signs or symptoms of ocular disease.
10. It was recommended that if at all possible, the children should be examined individually with the examiner at the side of the child rather than at the chart in order that she might determine whether any signs and symptoms of eye disease are present.
11. It was advised that children failing the visual screening test be referred by form letter to the family physician and from there to an ophthalmologist of his choice. In order to facilitate this, forms were recommended which incorporate brief answers and check marks.
12. Ophthalmologists were pledged to cooperate fully toward achieving success of the program.

Results of the Program

A restudy in March, 1960, of data in the Richmond Public Schools has already shown the effectiveness of this program in bringing up their results in line with national averages. Inquiry of local colleagues in ophthalmology indicates a markedly reduced number of false positive cases being seen among referred city school children. This is still not true of certain county and parochial schools where binocular testing techniques are being used.

General Conclusions and Significance of the Study

The value of the methods and criteria for referral which I have presented is rather obvious to the ophthalmologist, and while there is justification in informing this group of our findings, I feel that another deeper lesson has been learned, namely, how the effectiveness of proven acceptable health measures for the public benefit may be hindered by the activities of non-medically oriented and motivated groups.

To understand this better, it should be noted that the institution of this program in Richmond was greatly facilitated by the presence of school health officials who were already enlightened along these lines and who were anxious to have professional support from their colleagues in ophthalmology regarding their views.

Efforts were subsequently made to introduce these recommendations to parochial, private and county public schools. Success in these areas while variously high and low cannot yet be fully assessed, but the lesser degree of co-operation in certain of those areas seems to depend largely on whether a previous acceptance of non-medical advice has unfavorably prejudiced those in charge. It should also be noted that whereas school vision testing in the city is directly under the management of school health physicians and nurses, it is controlled by principals, parent-teacher organizations and other interested lay groups in some parochial and county schools. It is therefore more difficult to communicate in purely medical terms with those latter individuals and the task of winning co-operation and confidence is infinitely more difficult. It is important to learn why this is so.

In this area of medicine as in so many others, the public-medical interaction seems to have suffered largely as the result of a shifting of the basic medical sense of values, i.e., from medicine's more traditional humanitarianism to a more impersonal scientific objectivism which leads to a detachment of the profession from public problems. It is not appropriate to discuss here the varied reasons for this interesting evolution, but

we must recognize its existence because of its possible detriment to medicine and therefore to ophthalmology as well, and we should resist it. Can it be denied that narrowness of interest whether medical, surgical or optical breeds public contempt and disapproval while interest in *people* with ocular or visual disorders breeds respect and confidence? Non-medical refractionists in an apparently narrow technical field, strangely enough, already seem to have succeeded in recognizing this and despite their commercialism and advertising and whether justified or not, they have made many gains in winning public approval as has been proved by their success in legislation and general unquestioning acceptance by the public as manifested in the last phase of this study.

Is it not here at the deepest roots of medical thought that we must look for causes of any instability or inadequacy of the medical service structure? Is it not here that individually we can do the most to strengthen effectual medical care? The symptoms should be recognized and treated as we are doing the schools, but we must also discover and remove the deeper causes.

Finally, medicine, which should be an all embracing science of man, is fully equipped to meet and is now striving to meet these special ophthalmic needs in our community. Ophthalmologists in other communities face the alternative of taking action for the public welfare within medicine or else of forfeiting their position by default to non-medical groups.

Bibliography

1. Foote, Franklin M., and Crane, Marian M.: An Evaluation of Vision Screening, distributed by the National Society for the Prevention of Blindness and Publication, No. 183, and reprinted by Exceptional Children. 20: page 163, Jan. 1954.
2. Sloane, Albert E.: Arch. Ophthal. 24: p. 924, Nov. 1940.
3. Leverette, Hollis M.: Visual Test Performance of School Children. Am. J. Ophthal. 44: page 508, Oct. 1957.
4. Leverette, Hollis M., Am. J. Ophthal. 39:4, page 527, April 1955.

References

Crane, M. M.: Scobee, R. G.; Foote, F. M.; and Green, E. L.: Study of Procedures Used for Screening Elementary School Children for Visual Defects. Sight Saving Review Fall, 1952. 22: 141.

Crane, M. M.: We Study Testing of Children's Eye-Sight. The Child 15: 15, August-September, 1950.

Scobee, R. G.: Needless Referrals. Am. J. Ophthal. 33: 1302, August 1950.

Scobee, R. G.: Vision Testing of School Children. Sight Saving Review 20: 88, Summer, 1950.

A Guide for Eye Inspection and Testing Visual Acuity, National Society for the Prevention of Blindness, publication 180.

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Dysmenorrhea—New Therapy

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Dysmenorrhea causes much discomfort and disability. A simple treatment is described here which appears to give symptomatic relief.

MENSTRUAL DISTRESS is a clinical manifestation of three exaggerated physiologic norms. *Positive water balance* during the premenstrual week is physiologic but excess water retention leads to tissue edema with breast fullness, abdominal bloating and weight gain. *Vascular and lymphatic engorgement* are normal precursors to menstruation but when the limits of physiologic tolerance are exceeded there is lower abdominal and lumbar pain with a sense of heaviness and weight in the pelvis. A well integrated pattern of *myometrial contractions* is essential for the shedding, maceration, and expulsion of the depleted endometrium, and blood clots at menstruation. Disturbed patterns of myometrial contractions retard this shedding and expulsion, thus contractions are painful.

Physiology of Painless Menstruation

It is of more than casual interest that the signs and symptoms of menstrual distress mimic and rehearse the more dramatic signs and symptoms and parturition. The menstrual cycle is the gestational cycle in miniature. Tissue edema and vascular and lymphatic congestion in the premenstrual and preparturient patient subside promptly with the onset of menstruation and parturition. Pain arising from myometrial contractions disappears when the endometrial debris or products of conception are expelled.

To carry the parallel further let us recall that the symptoms of menstrual distress appear only in the potentially fertile cycle. A functioning corpus luteum is necessary to unusual water storage and to the development of a thick succulent edematous endometrium which is expelled painfully. Menstruation terminating the anovulatory cycle is never preceded by abnormal tissue edema nor is the proliferative phase endometrium shed and expelled painfully. It seems paradoxical that dysmenorrhea should occur only when the criterion of physiologic normalcy has been fulfilled. Why should it be so?

Physiology of Dysmenorrhea

The uterus is a hollow viscus with a thick smooth muscle syncytium for its wall. Its capacity for stretch is limited as compared with a thin wall viscus such as the bladder or intestine. Furthermore, the capacity to stretch and accommodate to a distending mass within its cavity is mediated in large part through the relatively slow humeral mechanisms as contrasted with other hollow viscera in which rapid accommodation to distention is effected through nerve control. Distress which a smooth muscle wall experiences in its attempt to expel a body within its cavity depends upon the size of the distending foreign body matched against the stretch capacity of the muscle. The volume of depleted endometrium, and therefore the volume of distending foreign body, depends upon the degree of endometrial growth. In dysmenorrhea an average volume of normally macerated and fibrinilized menstrual debris exceeds the stretch capacity of that particular myometrium. Disordered contraction patterns ensue which are painful. Pain-

ful menstruation is a manifestation of incomplete accommodation of the myometrium to the tissue mass within its cavity.

The stretch capacity of a muscle depends in a large part upon vascular and neural elements which supply it. The thick wall of the myometrium narrows the vessels passing through it and it is therefore essential that arterial relaxation be preserved. The myometrial capacity for stretch is impaired by the vaso-constriction and anoxia and increased by vascular dilation. This is one of the mechanisms by which presacral neurectomy relieves the pain of dysmenorrhea. When the sympathetic nerve fibres are divided the constricting element of the vascular bed is removed and the arteries are dilated to provide more adequate blood supply for the thick walled myometrium. The same effect can be induced temporarily by pharmacologic means.

It is my intent to report here the use of Niacin and its vasodilating properties as it relates to myometrial spasm, and the clinical use of Niacin in the treatment of dysmenorrhea.

Effect of Niacin on Human Uterine Contractions

The stretch tolerance of seven intact human uteri of patients suffering severe dysmenorrhea have been studied and compared with a study on nine patients that menstruated without discomfort.

The uterine contractions pattern is recorded by means of a small plastic balloon attached to a ureteral catheter. The balloon is passed into the uterine cavity and distended with water. Through a closed water system this balloon connects with a stress gauge which converts mechanical into electrical energy. These impulses in turn pass through an amplifier and record on a kymograph.

The patients with a history of dysmenorrhea are able to tolerate distention of the balloon up to 1.5 c.c. before complaining of severe spasmodic pain. In the non-dysmenorrhic patients the amount of water within the balloon necessary to excite the uterine pain exceeds 5.0 c.c.

Pressure tracings of the uterine contractions were recorded at the point where each patient complained of pain. Invariably disordered dysrhythmic hypertonic contractions were recorded as the myometrium was placed under stretch by the distending balloon.

These experiments were repeated approximately one hour following the administration of two tablets, each of which contained 50 mg. of Niacin with caffeine and 300 mg. of N-Acetyl-P-Aminophenol. The dysmenorrhic group of patients whose tolerance for intracavitary stretch was 1.5 c.c. now tolerated nearly twice this volume, 2.8 c.c., before complaining of pain and before there was any obvious change in the uterine contraction pattern. In contrast there was relatively little change in the accommodation of the patients without dysmenorrhea. These uteri formerly accommodated 5.0 c.c. of intracavitary stretch before pain was experienced and after administration of this compound the stretch capacity was about the same, 5.2 c.c.

These experiments would indicate that the dysmenorrheic uterus is one which accommodates poorly to intracavitary stretch and that Niacin in combination with N-Acetyl-Aminophenol aids and abets myometrial accommodation in the dysmenorrheic uterus.

Clinical Evaluation of Niacin with N-Acetyl-P-Aminophenol

The purpose of this test was to study subjective response of approximately one hundred female industrial workers who were given Niacin* tablets for relief of their symptoms of dysmenorrhea over three successive menstrual periods. It was an effort to determine what each patient thought of the medication in terms of relief from symptoms, how it compared to previous drugs

*Tablets containing Niacin, N-Acetyl-P-Aminophenol and caffeine supplied by the Clark-Cleveland Company, Binghamton, N. Y.

TABLE I. BACKGROUND DATA

Age Distribution:

1 patient	18 years old
42 patients	20-29 years old
46 patients	30-39 years old
17 patients	40-47 years old

106 patients started test

Frequency of Various Symptoms, as Mentioned to Nurses:

Symptom	Per Cent Occurrence
Cramps	94%
Headache	40%
Back pain	38%
Lassitude	14%
Nausea	13%
Aching legs	9%
Depression	5%

Marital Status:

10 single 96 married

TABLE II. RESPONSE TO FIRST PERIOD TRIAL

106 Patients Participating

Symptomatic Relief:

Age	Symptoms Disappeared	Symptoms Lessened	Symptoms Remained
18-29 years	84%	7%	9%
30-39 years	80%	13%	7%
40-47 years	70%	30%	0
Average for 106 patients	80%	13%	7%

Frequency of "Blushing":

Age	
18-29 years	51%
30-39 years	39%
40-47 years	53%
Average for 106 patients	46%

63% of patients took 1 tablet per dose.....40% of these blushed
37% of patients took 2 tablets per dose.....51% of these blushed

Reasons Given by 9 Patients for Discontinuing Test:

Failure to relieve symptoms.....6 patients
"Blushing" disagreeable.....3 patients

TABLE III. RESPONSE TO SECOND PERIOD TRIAL

97 Patients Participating

Symptomatic Relief:

Age	Symptoms Disappeared	Symptoms Lessened	Symptoms Remained
18-29 years	92%	3%	5%
30-39 years	91%	7%	2%
40-47 years	88%	6%	6%
Average for 97 patients	91%	5%	4%

Frequency of "Blushing":

Age	
18-29 years	47%
30-39 years	43%
40-47 years	56%
Average for 97 patients	46%

70% of patients took 1 tablet per dose.....41% of these blushed
30% of patients took 2 tablets per dose.....59% of these blushed

Reasons Given by 6 Patients for Discontinuing Test:

Failure to relieve symptoms.....4 patients
"Blushing" disagreeable.....2 patients

TABLE IV. RESPONSE TO THIRD PERIOD TRIAL

91 Patients Participating

Symptomatic Relief:

Age	Symptoms Disappeared	Symptoms Lessened	Symptoms Remained
18-29 years	97%	3%	0
30-39 years	95%	5%	0
40-47 years	87%	13%	0
Average for 91 patients	94%	6%	0

Frequency of "Blushing":

Age	
18-29 years	40%
30-39 years	33%
40-47 years	40%
Average for 91 patients	37%

77% of patients took 1 tablet per dose.....36% of these blushed
23% of patients took 2 tablets per dose.....43% of these blushed

Reasons Given by 5 Patients for Discontinuing Test:

Previous medication more effective.....3 patients
"Blushing" disagreeable.....1 patient
Made sick to stomach.....1 patient

taken, and how the "blushing" side-effect might influence opinion. Description of the symptoms in each case was recorded as well as each patient's comments concerning the medication.

The patients employed in this test were volunteers who had requested, from either of the nurses, medication for their menstrual complaints. No persuasion was used to recruit these volunteers and, of course, they were free to drop out of the test at any time for any reason.

Over 90% of those participating had received prescription drugs as the medication

used previously for relief of their symptoms. Most frequently noted were Phenaphen, Donnatal, or unknown prescriptions from their own physician. Only about 10% mentioned proprietary products such as Midol, aspirin, Empirin, and in a majority of cases more than one medication had been taken.

About 60% of the patients starting this test were over thirty years of age and presumably many of them did not have simple or primary dysmenorrhea. No effort was made to differentiate between the simple type and those having organic pelvic disease.

Tables I through IV follow, show some of the background data and the responses of the various age groups to the medication.

Summary

A tablet containing Niacin 50 mg. and N-Acetyl-P-Aminophenol was given to the patients in vials containing ten tablets. Accompanying the vial was a direction sheet which advised "Take one or two tablets with water at first sign of discomfort. After three hours, one additional tablet if needed." Consequently, the dosage, within limits, was selected by the individual patient.

As the test progressed, more patients limited the initial dose to one tablet. Significantly more blushing occurred with two tablets than with one.

The over-all frequency of blushing was higher (46% for first two periods) than encountered in the Philadelphia test. Age seemed to have a small and perhaps insignificant difference in the frequency of blushing.

Complete symptomatic relief was excellent; 80% over-all on the first trial including those in the older age group which because of organic difficulties, not primary dysmenorrhea, would tend to lower the apparent effectiveness.

As the test progressed through the second and third periods, the apparent effectiveness increased as those who were dissatisfied with the product dropped out of the test. However, the factor which is important here is that practically all who were relieved on the first trial continued to obtain relief from the same medication. These percentages are so high that they should rule out mathematical "freaks". Another thing to remember is that if you group the "symptoms disappeared" with the "symptoms lessened" column, the percentage of partial or complete relief is over 90.

The reasons given by those patients who discontinued the test were interesting in that most said they stopped because they preferred their previous medication, but it should be noted that a large percentage stopping the test for this reason also blushed. In Table IV—Response to Third Period Trial, while only one patient said she was discontinuing because of the blushing, all five blushed.

Of the 106 patients who started the test 86 or 81% of this number not only completed the three-period trial but were willing to continue using the tablets on successive periods. This figure is very close to the 83% who said they preferred Niacin tablets over previous medication.

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The Doctor as Novelist

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Men of medicine not infrequently find success in other fields, including the world of letters.

THE PROFESSION OF MEDICINE peculiarly fits the physician for the profession of letters. His practice constantly affords him the opportunity to observe at close range a wide miscellany of human characteristics and the environments which nurtured and sustained each individual. The physician and novelist both devote their time and energies in an earnest endeavor to understand the mysteries of human existence. It was Wilkie Collins who said: "The novelist is concerned with the psychological details of personality, emotional states and behavior; the springs of human action must be his incessant study, for his business is to explore human nature and to chart his discoveries." This is a large part of the physician's life also.

The profession of medicine has contributed a great many very eminent novelists. Among the earliest of the notable medical men who made names for themselves in the field of letters was Francois Rabelais. He was born in 1490 on a farm near Chinon and baptized at the neighboring village of Senilly. Later he received his elementary education there at the Benedictine Monastery of St. Peter. At a rather early age Rabelais was removed from this school and sent as a novice to the Franciscan Monastery of La Baumette.

Some time about 1510, Rabelais entered the Franciscan order and passed through the various grades up to that of the priesthood. He acquired a vast fund of classical knowledge which is so eloquently reflected in his works. Rabelais traveled a great deal and during his travels he made the best of his opportunities. While in Bourges he studied law. After completing his legal education, he came to Orleans where he found a convivial company of roystering students whose company he found most congenial. Among other things he learned the game of tennis from them, and within a short time became very skilled at this new sport.

Rabelais could not remain at any place for too long a time. He went wandering around France until he reached Montpellier where he matriculated as a medical student on the 17th of September, 1530. Here, as in his previous studies, Rabelias proved to be a brilliant student. He received his degree of doctor of medicine and resumed his wanderings. Arriving at Lyons in 1532, he was appointed as a physician to the hospital of the Hotel Dieu. Rabelais proved a most competent physician and is said have reduced the death rate by nearly three per cent during his stay in Lyons.

Rabelais was contentedly busy both as a physician and as a writer during these years. In 1532 he published his *Pantagruel*, which gave a fascinating account of the birth and childhood of his hero, Prince Pantagruel, son of Gargantua. The heroic deeds of the amazing Pantagruel proved fascinating to a great many people, and this novel was a huge success. It ran nineteen editions in Rabelais' time.

Throughout his life, Francois Rabelais practiced his three professions: religion, medicine and letters. He served all three well. He traveled widely, practicing medicine and writing prodigiously. Of the last two years of his life very little is known. He resigned the curacies of Meudon and of Jambet in January, 1553. Not long after this he died,

trying by jests to cheer the friends weeping by his side.

Rabelais' stories are notable because they are a mixture of mad laughter and mock gravity and because they point out the childishness and grandeur of the commonplace and ordinary. Rabelais was the first of the great laughter in world literature. He saw life in all its sordid details and was not too much disturbed by it. He loved humanity in spite of its shortcomings and he served it long and well.

Among the most notable medical authors in the dawn of modern German literature was Frederich von Schiller, who was born in 1759, and whose plays *The Robbers, William Tell, Marie Stewart, Maid of Athens* are among the greatest in German literature. He was graduated in medicine, and for several year was a military surgeon. However, his success in literature caused him to abandon his medical practice in order to devote more time to his novels and dramas. Carlyle considered him the greatest writer of the 18th century. His comedy, *Faust,* is one of the greatest in all literature.

One of the early great English novelists was Tobias Smollett. He was not only a gifted novelist, with a sharp eye for detail, but a physician and surgeon who possessed a great knowledge of the medical practice of his time. Tobias Smollett was born in Dalquhurn, Dumbartonshire, Scotland. The exact date of his birth is not known, but he was baptized March 19, 1721. He came of a well-known and quite wealthy family. When Tobias was a small child, his father, who had failed to inherit any of the family fortune, died, leaving no provision for his young widow and three small children; relatives came to the rescue by providing a modest income. Tobias was sent to a good school and later to the University of Glasgow, where he began the study of medicine.

While carrying on his studies at the University, Smollett was also apprenticed to John Gordon, a surgeon. The young student obtained a good grounding in medicine and surgery, but before he took his degree, the relative who had been supplying funds for his studies died and it became plain that Tobias would have to depend on his resources from that time on. He was then only 18 years old, but he was a youngster of great determination, and he made up his mind to seek his fortune in London.

Tobias had two methods by which he had hoped to earn some money. The one on which he founded his greatest expectations was a tragedy in blank verse called *The Regicide.* If this failed, he meant to fall back on his knowledge of surgery. He showed his play to all of the leading actors and producers, but they were not in the least impressed by it. It was amateurish and far from being a good play.

In 1739, the year of Smollet's arrival in London, war broke out between England and Spain. Preparations were made to dispatch a naval expedition to the West Indies, and Smollett decided to seek a commission as surgeon's mate in the navy. For this it was necessary to pass an oral examination at Surgeon's Hall and in his partially autobiographical novel, *Roderick Random,* published some years later, Smollett gave a caustic picture of the examination he underwent. The members of the Board began to argue among themselves and the controversy became so heated that the young applicant was almost forgotten. In the end, he was hastily passed, having had little opportunity to demonstrate either knowledge or ignorance.

On March 10, 1740, Smollett was granted a warrant to serve as a surgeon's second mate and he succeeded in obtaining an appointment on H.M.S. Chichester, one of the largest vessels in the fleet. On October 26th, the fleet sailed for Jamaica, where it joined another squadron; and the combined force set out to attack Cartagena, on the Caribbean coast, in what was then known as New Spain. This attempt proved unsuccessful and the fleet returned to Jamaica. Here Smollett was landed with other surgeons to aid in looking after the troops ashore.

In his account of the expedition to Cartegna, Smollett gave an account of the treat-

ment given to the injured and the sick after the unsuccessful attack on the Spanish settlement:

"As for the sick and wounded, they were next day sent on board of transports and vessels called hospital-ships, where they languished in want of any necessary comfort and accommodation. They were destitute of surgeons, nurses, cooks and proper provisions. They were pent up between decks in small vessels, where they had not room to sit upright; they wallowed in filth; myriads of maggots were hatched in the putrefaction of their sores, which had no other dressing than that of being washed by themselves with their own allowance of brandy; nothing was heard but groans, lamentations and the language of despair invoking death to deliver them from their miseries. What served to encourage this despondency was the prospect of the poor wretches who had the strength to look around them; for they beheld the naked bodies of their fellow-soldiers and comrades floating up and down the harbor, affording prey to the carrion crows and sharks which tore them to pieces without interruption, and contributed by their stench to the mortality that prevailed. . . . Every ship of war in the fleet could have spared a couple of surgeons for their relief; and many young gentlemen of that profession solicited their captains in vain for leave to go and administer help to the sick and wounded."

After such an experience, Smollett had enough of the navy. On the return of his ship to England, he left the service and undertook to establish himself in surgical practice in London.

Although Smollett lived for several years by his medical practice, this was never large. His failure to build up a successful practice was evidently due not to lack of ability or knowledge, but to the fact that he did not know how to handle patients with kindness and consideration. He had a violent temper; he was extremely blunt in expressing his opinions, and this did not make him very popular with his patients.

In 1747, he was married. His wife who had inherited a small fortune, rented a large house and the young couple began to entertain a great deal. It was decided that Smollett should complete his medical education. He took his M.D. in 1750 at Marischal College, Aberdeen.

Before taking his degree, his first novel *Roderick Ransom* had appeared and had attracted favorable attention. It was followed in 1751 by *The Adventures of Peregine Pickle,* which though inferior to *Roderick Ransom,* was a greater financial success and established Smollett's reputation as a novelist. In the years that followed, he not only continued to publish novels but was active in the editing of several magazines, particularly the *Critical Review,* which was quite popular. His most profitable venture was a *History of England,* which, though it did not win Smollett a lasting reputation as a scholarly historian, appealed to the public taste and had a large sale.

Smollett continued to practice both his professions, writing both fiction and nonfiction. His last and best novel *The Expedition of Humphrey Clinker,* which appeared in 1769, attracted a great deal of favorable notice. It sold well and Smollett was very happy. On September 17, 1771, Smollett died, at the early age of 50.

In Smollett's day he ranked as a novelist with his contemporaries, Samuel Richardson and Henry Fielding. His novels have exerted a wide influence, and have earned him the right to be regarded as one of the chief forerunners of the modern realistic school of fiction.

Another doctor-novelist of that time was Charles Lever whose novels were as popular in their day as those of Dickens and Thackeray. Charles Lever was born in Dublin in 1860, the son of James Lever, a successful building contractor. Charles, as a school boy was noted for his popularity and his leadership in sports and pranks. He was also quite adept at fencing and dancing. He was never very studious, and even when he entered Trinity College, Dublin University, he was

neglectful in his work, and it took him five years instead of four to earn his B.A.

At 21, after his graduation, Charles, though he planned to study medicine, felt that he was not yet ready to settle down to serious study. He wanted to see something of the world first. He sailed for Canada abroad a ship owned by the father of two of his friends. He traveled widely throughout the unsettled parts of Canada and had many adventures among the Indians. He was adopted into a tribe of Indians and for some time shared their primitive existence.

Upon his return to Europe, he studied medicine at the Universities of Heidelberg and Vienna and completed his studies at Trinity College from which he received his medical degree in 1831. Not long thereafter, Ireland was plagued by a devastating epidemic of cholera and physicians were urgently needed for the remote country districts. Lever offered his services and was sent to County Clare in the west of Ireland. The totally inexperienced doctor made a good record and on his return to Dublin four months later, he was offered a permanent post as dispensary doctor at Port Stewart, a small but pleasant watering place. The salary was rather small but he received an additional appointment in a neighboring town. He built up a private practice and in this way he felt that he could support a wife. He married Kate Baker, a petite pretty girl. She shared his taste for a lively social life and though she made no pretensions to special intellectual accomplishments, when he began to write for publication, she proved herself an excellent critic of his work. Throughout his life, he read to her everything he wrote and usually followed her suggestions in making revisions.

Lever had always been a gifted raconteur and while still in college had tried his hand at writing stories. Before leaving Ireland, he had contributed articles to the leading Irish literary periodicals, the Dublin University Magazine, and had begun writing for it a serial called *The Confessions of Harry Lorrequer*.

As soon as *Harry Lorrequer* was finished, Lever began work on another novel of the same type, *Charles O'Malley*. When his second novel proved a success, even surpassing in popular demand the current works of Dickens, he felt that he was now a real novelist and he gave up his medical practice to devote all his time to writing. He also received an offer to assume the editorship of the Dublin University Magazine at a good salary.

Thereafter Lever wrote daily producing a series of novels which attained great popularity. Some of his novels dealt with social problems. *The Knight of Gwynne* and *The Martins of Cro'Martin* dealt with the social and political problems of his native land. *The Martins of Cro'Martin* describes the efforts on the part of a lady of the Irish landed gentry to bring about practical reforms for the benefit of the peasantry, while *The Knight of Gwynne,* portrays the ideal patriotic Irish gentleman of that day. Charles Lever died June 1, 1872, in his sleep. He was one of the leading novelists of his day.

Another popular novel was *Rab And His Friends*. It was written by Dr. John Brown, for many years a practicing physician in Edinburgh. John Brown was born September 22, 1810, in the village of Biggar, Lanarkshire, Scotland. When he was six years old, he lost his mother. His father, a minister, though kindly and affectionate, was by nature silent, reserved and wholly absorbed in his work, and much depressed by the loss of his wife. A distant cousin and lifelong friend thought the atmosphere in which the boy and his brother and two sisters spent their childhood was altogether too solemn and joyless. When John was 12 years old, however, his father was called to a church in Edinburgh and there the boy made many friends in school and had a happy and normal youth. He impressed his friends in Edinburg High School as "frank, good-humored, a little odd, a curious mixture of simplicity and sense, companionable", but "giving little indication of what he afterwards became".

On graduating from high school, he en-

tered Edinburgh University and after only a few months of the arts course enrolled as a medical student. The apprenticeship system of medical instruction still prevailed in Scotland; and concurrently with his medical course at the University, Brown was apprenticed to James Syme, who was later to become one of the leading surgeons of his time. John Brown in later years wrote: "Perhaps I was too near Mr. Syme to see and measure him accurately, but he remains in my mind as one of the best and ablest and most beneficent of men. He was my master; my apprenticeship fee bought him his first carriage —a gig, and I got the first ride in it, and he was my friend. He was, I believe, the greatest surgeon Scotland ever produced; and I can not conceive of a greater, hardly as great a clinical teacher."

Before taking his degree, John, on the recommendation of Syme, accepted a temporary post as a physician in Chatham, on the southeast coast of England, where he spent a busy but pleasant and interesting year. Before returning home he was subjected to a trying ordeal by a cholera epidemic which taxed the physicians of the town to the utmost. The young assistant distinguished himself by his devoted care to these cholera patients.

In 1833 John Brown obtained his doctor's degree and at once began to practice in Edinburgh, a city which he loved from his first acquaintance with it and which he never afterwards left except for brief periods of travel. In his medical practice he acquired a reputation for close and accurate observation of symptoms, conscientious attention to his patients and skill and good judgment in treatment.

In 1840, at the age of 29, he married Catherine McKay. Unlike her husband, she was not a universal favorite in society, for she was one of those extremely honest and candid people who do not hesitate to show personal dislikes. But it is worth noting that her husband's most interesting and intellectual friends usually liked and admired her. Her husband's devotion to her never wavered during the twenty-four years of their married life.

Dr. Brown's literary career began almost by chance a few years after his marriage. Occasional letters and paragraphs from his pen had appeared in a popular Edinburgh newspaper, the *Scotsman,* and like everything else he wrote, they bore the impress of his personality. One morning, to his great surprise, he received a letter from the editor of a rival paper, the *Witness,* asking him to write some articles on a current art exhibition and enclosing one hundred dollars in payment. Dr. Brown had always had a keen interest in art and the quick careless sketches with which he often adorned his letters show that he possessed a certain artistic gift himself; but he felt a great deal of hesitation at undertaking professional art criticism. His wife, however, succeeded in convincing him that he was thoroughly capable of writing the articles. They proved to be the first of a long series of papers on a variety of subjects which appeared in various periodicals and which were reissued in book form under the title of *Spare Hours.*

Dr. Brown's most popular story, *Rab And His Friends,* made its initial appearance in print in the first volume of *Horae Subsecivae,* published separately in 1858. It was reprinted by itself many times. In a preface to the first separate edition, Dr. Brown tells how he came to write it. An uncle of his, the Rev. Dr. Smith of Biggar asked him to give a lecture before the Biggar Athenaeum. Dr. Brown had never lectured before and knew that he had no gift for public speaking. However, his uncle insisted and, besides, he himself had a strong desire to say something to these people among whom he had spent his childhood, if only he could think of the right thing to say to them. Searching his mind for a suitable topic, he remembered an incident which occurred when he was a medical student and clerk at the small surgical hospital which Syme, his instructor and friend, had founded. He had often thought of it since. "Indeed it came to me at intervals, almost painfully", he says,

"as if demanding to be told", yet when he at last tried to write it the words would not come. Then one night, after a happy evening with congenial friends, he sat down in his study about midnight, and when he rose from his chair at four in the morning the story was written.

The central incident is a vivid but restrained account of a major surgical operation performed before the advent of either anesthesia or asepsis. The audience which first heard the story did not respond well, owing to the poor style of Dr. Brown's delivery. It was not until *Rab And His Friends* appeared in book form that he himself had any idea of its wide potential appeal.

Perhaps the most popular of Dr. Brown's writings next to his *Rab,* was *Marjorie Fleming,* a tender and amusing biographic sketch of a gifted child. Another favorite was the essay entitled *Letter to John Cairns, D.D.* which was really a memoire of Dr. Brown's dead father. The appeal of Dr. Brown's writings lies largely in their revelation of his own personality and in a characteristic blending of gentle humor with the serious or the pathetic.

Dr. Brown continued his medical work and writing almost to his death. The end came rather suddenly in his 71st year. Early in May 1882, he caught cold, pneumonia and pleurisy developed, and on May 11th, he died.

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Periodic Inventory for Medicine Cabinet

Medicine cabinets should be cleaned out regularly to prevent the dangerous accumulation of old medicines.

A periodic inventory and a good bonfire are advisable, according to the December 17th Journal of the American Medical Association.

A Journal editorial stressed the danger of drug-faddism and self-medication tied to over-the-counter purchases and the lending of medicine among neighbors and friends. It criticized the practice of saving prescriptions even though salves have leaked through their cartons, sedatives have become a bit mixed up, and labels have dimmed with age.

"Proper medicines tip the scales in illness, and they should be obtained professionally and used according to directions."

Mental Health . . . .

EDNA M. LANTZ

Recent State Mental Hospital Population Trends

The Old High Point

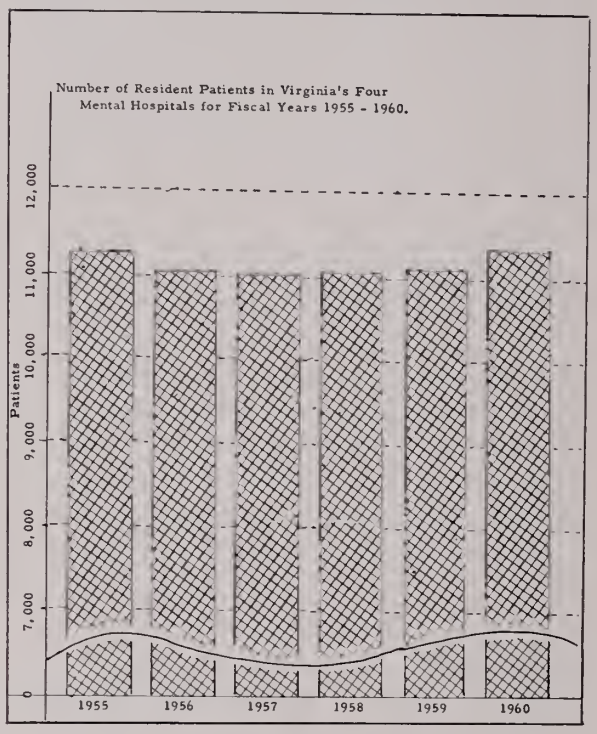
On June 30, 1955, there were 11,303 patients in Virginia's State Mental Hospitals. This caused a great deal of concern to the Department of Mental Hygiene and Hospitals because it was an "all time high". The ratio of patients in hospitals to the general population at that time was 316 for each 100,000 persons.

The number of admissions had also reached a high point in 1955. There were 3,829 of which 2,276 were first admissions, and 1,510 readmissions. The "first admissions rate" was 64 per 100,000 of general population.

A Breakthrough?

Then for two years the patient load dropped. As of June 30, 1957, there were only 11,020 patients resident in the four hospitals. This despite the fact that the admissions had increased in the two year period. (Thirty patients for 1956 over 1955 and 304 patients in 1957 over 1956.) This decrease in hospital populations despite increased admissions caused hasty and unwarranted optimism leading to predictions that with new drugs, mental illness was possibly on the decline.

In 1958 to dispel the optimism the increase in hospital population was small but the increase in admissions jumped to 551 more than 1957 (4,714 admissions). More than half of the increase was in readmissions. Again, in 1959 the hospital population increased slightly over 1958. However, a reverse trend in admissions occurred. There were 177 *less* than the previous year.



Today—A New High Point

A decided trend of increase occurred in 1960 both in hospital population and admissions. The hospital population was 11,335 (an increase of 237 over 1959). The admissions were 4,848 (an increase of 311 over the previous year with most of the increase being in readmissions).

The ratio of patients in hospitals to the general population on June 30, 1960, was 290 over 100,000, less than the rate in 1955 but the first admissions had a rate of 69 which is an increase over 1955.

The general population in Virginia increased 17.6% in the decade 1950 to 1960 and about 9% from the estimated population of 1955 to 1960.

Hospital population increased only 0.3%

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Approved for publication by Commissioner, Department of Mental Hygiene & Hospitals.

Note: This does not include population or admissions to the training schools for mentally deficient.

from 1955 to 1960, however, first admissions increased from 2,276 to 2,688 or 18%, a higher rate than general population increases.

The trend of increase continues. As of September 30, 1960, there were 11,433 patients in hospitals, an increase of 98 in a three month period. There have been 125 more patients admitted since July 1, 1960, than the same period last year.

Conclusion

It is apparent that mental illness is still with us. Though the total hospital population increase has been slight, the increase of first admissions and readmissions has been tremendous. Only an acceleration of the treatment program has made it possible to "hold the line". Even so, as of the moment we are losing ground.

Traffic Accidents

A beachhead has been established in the battle against traffic accidents—a scientific study to determine if reckless driving is a disease.

The study to determine whether there is some correlation between physical shortcomings and driving performance was described in an article in the December Today's Health, published by the American Medical Association.

"Nothing of such scope has ever been attempted before. The criteria established by such research may some day prove to be a sort of 'vaccine' against reckless driving.

"This will be the first big step toward further refinements of all physical criteria for determining qualification for a driver's license. Such criteria would be needed by state motor vehicle authorities to invoke sterner control measures and, if challenged, to produce scientifically valid proof that would stand up in court."

From 20,000 to 25,000 Connecticut motorists will undergo a voluntary screening in a specially built six-room mobile clinic to determine if there is a relationship between their physical, physiological, or psychological conditions and their driving records, with the emphasis on physical factors. Each will be tested for hearing and vision deficiencies, diabetes, anemia, and heart and lung pathology.

Later, depending on the findings of the initial studies and the availability of appropriations, the investigation will be extended to physiological factors, such as the effect of drugs on drivers, and psychological factors, such as the effect of drivers' emotional attitudes on their driving.

The U.S. Public Health Service is conducting the experiment in the field which probably will take 18 months. The follow-up task of keeping tabs on the records of the drivers who have been examined will be done by the State Motor Vehicle Department and will take at least five years.

Gov. Abraham Ribicoff of Connecticut told Today's Health that the study "is exciting to health authorities because, for the first time, it gives them an opportunity to determine whether methods they have used successfully against various diseases will work against the plague we know as the traffic accident; it is equally exciting to all who are interested in highway safety because of the lifesaving promise it holds."

The article was written by Ernest L. Barcella.

Pre-Paid Medical Care....

Edited by
RICHARD J. ACKART, M.D.

Our Fighting Chance

GEORGE COOPER, Jr., M.D.
Charlottesville, Virginia

The future of the physician-directed, non-profit Medical Service Associations—Blue Shield Plans—of the country depended a great deal upon the results of the recent Presidential election. Had the people voted strongly for the platform of the national Democratic party; that is, for rapid development of a welfare state (which would, of course, include medical care provided by taxation), these Associations would have been at least temporarily eclipsed and possibly would have been headed for permanent dissolution. Fortunately, however, the 50-50 division between socialists and individualists which apparently exists in the United States, as reflected by the election results, indicates that there is still a fighting chance to preserve the basis of medical practice as we know it, the freedom to choose one's physician and his reimbursement by a fee for service rendered.

While there is still time, the medical profession must speedily re-evaluate its safeguards against government encroachment in the light of today's popular and political thinking about medical care. And the profession must speedily strengthen those safeguards which are proving effective.

The starting point is recognition of the changed concept of the place of medical service in the American way of life. There was a time when medical service, like a college education, was regarded as a commodity to be purchased by those who could afford it, omitted by those who could not. And though generous physicians did a great deal of charity work, much needed medical service was not obtained. Today, however, complete medical service is considered a *right* of every citizen—to be supplied by the community when the individual cannot afford it. Medical service is now regarded as a public service, like schools and police protection, to which everyone in society is entitled regardless of his personal ability to pay.

When recognizing this modern, public service concept of medical care, the profession must be keenly aware of the fact that a public service need must be met—or government steps in. For a good many years the vast majority of our fellow citizens have been convinced that this public service concept is indeed valid but, so far, they have not found a way to convert the concept to a reality. In order to do so, a growing number of citizens have become impatient enough to be willing to exchange the present system of medical practice for universal medical care paid for by government out of tax funds. For reasons familiar to us all, organized medicine and—happily—a few of our political leaders oppose the change on the grounds, not that the objective should not be reached, but that it can be reached without federal medicine.

The effort by organized medicine to furnish all of our citizens their right to complete medical care has been concentrated in the physician-directed Blue Shield Plans, which offer as broad coverage as possible on a voluntary, non-profit basis to all who can be covered from an actuarial standpoint. Over the nation, this covers many thousands whom the commercial companies turn down as poor risks, and many other thousands who cannot afford the commercial carriers' rates. Blue Shield coverage, in terms both of services paid for and of people enrolled, is being

broadened as rapidly as its economic and actuarial aspects permit.

The objective of organized medicine, then, is to prove through Blue Shield that voluntary prepayment to a non-profit organization—which does not disturb the patient-physician relationship nor the fee for service principle—can finance medical needs on so broad a scale that government medicine is not necessary. This is the most important task facing medicine today. Every citizen who has a sense of responsibility to his profession and understands the purpose of Blue Shield will join in the effort by becoming a Participating Physician in his local Blue Shield Plan. The House of Delegates of the A.M.A. in Dallas in December, 1959, and again in Atlantic City in June, 1960, reiterated its support of Blue Shield. "To serve the public best, Blue Shield Plans need and deserve the support of physicians and Medical Societies."

Treating Mentally Ill

The next 10 years will see a "drastic departure" from the traditional large hospital for treating the mentally ill and a trend toward more community services.

This was predicted by Dr. Mathew Ross, Washington, D.C., medical director of the American Psychiatric Association, in the November Archives of General Psychiatry, published by the American Medical Association.

Dr. Ross said psychiatrists have begun to doubt the potential of the large public hospital as a treatment center.

There has been increased concern expressed about the size of such hospitals. Whereas in the past the 1,500-bed hospital was considered optimal, that figure has now been pared down to 500 and many think 200 would be preferable.

"If we are to build any new hospitals, it is ventured, they should be small regional hospitals located in areas where the patient lives."

Although the mental hospital will continue to play an important role for many years, a new approach to mental illness in the community will blossom in the next decade. The new approach focuses on alternatives to the large mental hospital or modifications of it and entails a dispersion of psychiatry into the community.

"Our pleas now are for open hospitals, day hospitals, night hospitals, half-way houses, sheltered workshops, after-care programs, outpatient departments, clinics, and community mental health centers." We believe that no community general hospietal of any size should be considered truly "general" unless it cares for psychiatric as well as other patients. We also maintain that a public mental hospital cannot do its job unless it is integrated into a network of community facilities.

Our philosophy of treatment also is changing, Dr. Ross continued. Although some patients still remain beyond the reach of known therapies, "our sights have been raised."

A decade ago, psychiatrists were reluctant to suggest that perhaps 60 per cent of patients would recover in a mental hospital providing they could be given active treatment. But now it is not at all uncommon to hear it said that 80 to 90 per cent of such patients can be helped providing community support is established.

"Even within our hospitals there is a fresh air of optimism about making more useful citizens of the chronic patients, either within the hospital or in a protected setting outside. We are, or so it seems to me, moving rapidly towards a philosophy of total treatment for all rather than intensive treatment for some —a limited few, all too often."

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Phenylketonuria, a Cause of Mental Deficiency

Phenylketonuria was first described more than twenty-five years ago by Folling, a Norwegian biochemist. He examined retarded children who had light blonde hair, blue eyes, and a peculiar body odor. The urine had the same odor and turned green when a drop of ferric chloride was added. The abnormal substance which gave rise to both the odor and the green color was phenylpyruvic acid, a phenylketone.

Since Folling's discovery the nature of the inborn metabolic error has been determined; children having phenylketonuria cannot use a common protein food product, phenylalanine. Normally, this is converted to tyrosin by the addition of a single -OH group and tyrosin, in turn, is converted to melanin, the body pigment. In phenylketonuria the enzyme phenylalanine hydroxylase is absent or inactive and phenylalanine, not being converted into tyrosin, accumulates in the blood to reach levels 20 to 30 times normal. In normal persons the blood level is always rather low, between 1 and 3 mgm. percent. Blocked from being transformed into its usual products, phenylalanine rises to high levels, between 20 and 60 mgm. percent. Since melanin is not formed, the child is not pigmented as normal members of the family and has light blonde hair and blue eyes. The skin is delicate and easily damaged. Eczema and skin irritation are frequently present. Convulsions may occur and mental deficiency develops.

Phenylalanine is not the only amino acid whose metabolism is disturbed in phenylketonuria; tryptophan is not broken down properly to serotonin. Serotonin is an important chemical constituent of the central nervous system.

A small but significant number of infants, estimated at one in every 20,000 births, are born unable to metabolize properly the amino acid phenylalanine. Phenylketonuria has been found in all races and in every economic stratum. It has been seen less frequently, however, in people of Jewish and of Negro ancestries.

Phenylketonuria is transmitted by inheritance of an autosomal recessive gene. The existence of these genes may not be apparent in the parents. When only one parent carries a recessive gene the offspring shows no ill effects. However, if two carriers of such a gene marry, some of their children may inherit one abnormal gene of the same type from each parent and will develop the abnormality, in this case phenylketonuria. This follows the Mendelian law, which means that 25% of the children from all marriages between carriers will develop phenylketonuria. The other children will not show symptoms of this metabolic abnormality since only one gene, at the most, will be present. Some couples may have one or two children with phenylketonuria before they have a normal child. Others may be lucky and never have a child with phenylketonuria.

The phenylketonuric newborn gives no evidence of the condition at birth and there is no physical impairment that points to future trouble during the time the infant is in the hospital newborn nursery. After two to six weeks the phenylalanine level rises in the blood until it "spills over" and the baby begins to excrete phenylpyruvic acid. The urine then has a musty odor which may call attention to the disorder. As the condition progresses, the brain development is arrested and severe mental deficiency results unless diagnosis is made and treatment is instituted. When the metabolic defect was identified,

it was first concluded that phenylalanine or its abnormal metabolites were toxic to the brain. This does not appear to be correct for there is no correlation between the severity of the metabolic and the mental deficiencies. It is estimated that between one-half and one percent of all institutionalized mental defectives have had phenylketonuria.

The disease can be detected in early life before mental retardation is evident. This is done by a urine test and the diagnosis is confirmed by a blood test. Electroencephalographic abnormalities are found in about 80% of phenylketonurics, whether or not they suffer from convulsions.

A number of simple tests are used to recognize phenylketonuric acid in the urine:

1) A solution of ferric chloride may be dropped into a urine sample or on a wet diaper. If a dark green or a green-brown color results, it suggests the presence of phenylpyruvic acid. The color should be read immediately as it fades on standing.
2) A paperstick impregnated with ferric chloride and glacial acetic acid offers a convenient method of testing. These papersticks may be purchased commercially. When the chemically treated portion of the stick comes in contact with phenylketonuric urine, a green, gray, or dark blue color results within 60 seconds. Excessive amounts of bilirubin in the urine may result in a false positive reaction.
3) Mothers of newborn infants may be given several pieces of absorbent filter paper with instructions to place the paper in their baby's diaper to become wet. The paper is taken out, dried, and mailed in for testing.

These tests may be followed by determination of serum phenylalanine levels to confirm the presence of the metabolic abnormality. A large excess of phenylalanine in the blood is final proof that the child has phenylketonuria.

It is important that all physicians and clinics screen perfectly well infants between the ages of two and six weeks or at the time of their visit when they are seen for the first time after reaching six weeks of age. The amount of help that can be given to a child with phenylketonuria depends on how early the condition is discovered. There is evidence that if the diagnosis is made in the first few months of life, normal mentality can be preserved. If diagnosis is delayed beyond the first year of life, treatment can have a modifying effect but will not restore the child to normal.

The specific treatment for phenylketonuria is a special diet which has most of the phenylalanine removed. Various salts, vitamins, and carbohydrates are then added to supply a synthetic food that will promote a normal rate of growth. These low-phenylalanine preparations are available commercially. The aim of the treatment is not to eliminate phenylalanine from the diet, some is needed and too low an intake will result in poor growth. The additional amount needed for normal growth can be provided with low protein foods such as vegetables, fruits, and cereals. It is not known how long such a diet is necessary but there is accumulating evidence that a normal or more nearly normal diet may be resumed at school age.

Although special diets will not correct mental deficiency that has developed after the child is past two, or possibly three years of age, there are certain drugs that may help to make him more manageable and allow him to make better use of his abilities. The earlier an infant is diagnosed and treated, the better the chances for normal development.

Since mental retardation or deficiency from phenylketonuria is preventable, it becomes a public health problem to assist in early diagnosis. The Bureau of Maternal and Child Health of the State Department of Health has recognized this obligation to bring about early diagnosis and prevention of this form of mental deficiency through

early treatment. In the summer of 1960, physicians from this bureau of the Virginia Department of Public Health visited all local health departments which cooperate with the bureau and instructed the local directors of health in the methods of identification of phenylketonuria and the type of diet that must be given these patients. In all of the local health departments of Virginia tests for phenylketonuria are made on the urines of apparently well infants being seen for the first time. As might be expected from the incidence of this metabolic disorder, the number of cases found is small but the abnormality has been detected in a few who would not have been diagnosed until symptoms of mental retardation had developed.

It must be repeated over and over again that all physicians who have infants and young children among their patients have the obligation and duty to make the simple test for phenylketonuria. Through early correction of this metabolic defect, many individuals can be spared lives of mental deficiency; their families can be spared the heartaches resulting from failure to give such care; and the State (and, therefore, you) can be spared the financial burden of the custody and care of mental cases which need not develop but which, when allowed to develop, bring about the loss of valuable and productive citizens.

Monthly Report of Bureau of Communicable Diseases

	Nov. 1960	Nov. 1959	Jan.-Nov. 1960	Jan.-Nov. 1959
Brucellosis	0	1	33	27
Diphtheria	7	1	38	11
Hepatitis (Infectious)	40	47	763	461
Measles	205	150	6629	14,720
Meningococcal Infections	4	8	54	78
Aseptic Meningitis	2	—	42	—
Poliomyelitis	13	21	46	284
Rabies (In animals)	12	10	202	162
Rocky Mt. Spotted Fever	2	1	39	38
Streptococcal Infections	365	475	5536	7921
Tularemia	2	2	33	18
Typhoid	1	1	22	25

Formula Diets

The use of complete formula diets is not a medically sound means of reducing weight, according to an official of the American Medical Association.

Philip L. White, Sc.D., secretary of the A.M.A.'s Council on Foods and Nutrition, said, "Selecting a variety of foods and controlling calorie intake to maintain the most desirable weight is the only long-term technique that has sound medical judgment behind it."

The better-grade formula diets "seems to be nutritionally complete with the exception of caloric content." Most of the products are designed to supply 900 calories daily.

However, "no weight-reduction program should be undertaken by any individual who is grossly overweight unless the program is carried out under medical supervision." Only the physician is properly equipped to judge whether an overweight person should in fact reduce.

"The short-term use of the 900-calorie formulas will not harm the individual who is just a teeny bit overweight. However, such persons will achieve more satisfactory long-term results when they develop and maintain good eating habits—then weight maintenance will no longer be a problem."

Dr. White said he did not believe that "any crash diet program has a respectable place in good family nutrition."

His comments are contained in the November issue of the A.M.A. magazine. Today's Health.

Cancer Trends . . . .

SAUL KAY, M.D.

Cytology in Virginia

There are now three approved Schools of Cytotechnology in the State of Virginia. These are located in Norfolk, Charlottesville and Richmond, at De Paul Hospital, the University of Virginia and the Medical College of Virginia, respectively.

The establishment of these schools is a landmark in progress in the field of cytology in Virginia. It is now possible to foresee the elimination of the critical shortages of trained personnel necessary to screen Papanicolaou smears for the early diagnosis of cancer. Individuals desiring a career in cytotechnology may apply to these schools for training rather than be sent out of State to accredited schools.

With the institution of a Community Cancer Demonstration Project Grant, the training of cytotechnicians is now made particularly attractive to aspiring applicants. Through the aid of the Public Health Service from Washington, D. C., Federal monies have been made available to support the entire teaching program. Technicians chosen for this training spend a minimum of six months in approved schools and receive a stipend of $225.00 per month. At the end of this period, and after passing a practical and written examination, they are eligible to receive a certificate in cytology.

Prerequisites for entrance into the cytology schools consist of a minimum of two years of college work which must comprise at least 12 semester hours of biology. This may include general biology, bacteriology, anatomy, histology, embryology, physiology or zoology.

Individuals desiring careers in cytotechnology should apply to the pathologists in charge of the above-mentioned Virginia schools. Assistance in planning for this training may also well be obtained from the American Cancer Society and the Virginia Council on Health and Medical Care.

Fluid Replacement for Burn Victims

A simplified method of replacing fluids lost by persons who suffer extensive burns has been tested successfully, according to an article in the November 19th Journal of the American Medical Association.

Drs. J. Frederick Eagle, Jr., New York City, and Worthington G. Schenck Jr. and Walton Shim, Buffalo, N.Y., said a single formula providing for replacement of water, protein, and electrolytes had proved successful when given intravenously during the first 48 hours after the burn was suffered.

These three substances and red blood cells usually are administered in four different solutions one after the other. The authors found whole blood rarely has been necessary during the first 48 hours. The combined solution has been used exclusively for fluid replacement in all burned patients admitted to Meyer Memorial Hospital, Buffalo, for the past six years and at St. Luke's Hospital, New York, for the past four years.

Experience with 28 patients with burns of 15 per cent or more of the body indicates that the combined formula does not influence over-all mortality, but apparently does reduce deaths during the first 48 hours.

Miscellaneous . . . .

Medical Care for Older People

The following is a copy of a letter recently sent Senator Harry F. Byrd:

The Honorable Harry F. Byrd
Senate Office Building
Washington, D. C.

Dear Senator Byrd:

The Sleepy Hollow Medical Society has given long and earnest consideration to the various programs sponsored by the Congress of the United States for the relief of elderly people so far as their medical expenses are concerned. The tendency, in general, is to suggest that doctors either reduce or completely eliminate their fees to people past sixty-five years of age.

This Society has given a considerable amount of thought to the problem and is of the opinion that there is undeniable merit in the idea of remission of all medical fees for elderly people. The Society has voted unanimously to eliminate all charges to people sixty-five years of age and older regardless of the economic circumstances or financial reserves.

In return for this generous offer, we would like to call the attention of the American public to certain other facilities that should be made available to this group of older citizens in exactly the same manner. It is a well known fact that after we have seen these people they will have prescriptions which will require a trip to the drug store for medicine. In order to conform to the plan which we promulgate, it would be only proper and fitting that the druggist fill these prescriptions and deliver to these older people their medications without any charge, because of their advanced years.

One of the most common ailments, among older people, is directly referable to the teeth. Many older people have already had most of their teeth extracted or at least have many carious teeth that are in need of restoration or extraction. In following the plan which is outlined by the Sleepy Hollow Medical Society, the dentists would be happy to furnish, without charge, all services and the necessary materials for the extraction, restoration or replacement of natural teeth.

Almost all people who have reached the age of sixty-five have developed certain idiosyncrasies or appetites for foods of various kinds. The medical profession discovered many years ago that a well rounded diet was very essential for the proper nourishment of the body and for the attainment of advanced years with relatively good health. This Society is of the opinion that food is essential to the well being—in fact to the very existence—of people past sixty-five years of age. Therefore, in line with the program offered by this Society, there would be no charge at the various food and variety stores for the necessary purchase of items selected by these elderly people for their own consumption.

In a temperate climate, clothes are just as essential as food for the well being of people in general and especially for elderly people, who may be somewhat debilitated by their advanced years. Clothes wear out just as frequently and just as thoroughly for people past sixty-five as for those under sixty-five. These older people will find themselves in need of new clothes to properly cover their nakedness and make them acceptable as fellow members of society. Therefore, in line with the program promulgated by this Society, these older people would have the privilege of selecting whatever garments they might fancy, in order to properly clothe and adorn themselves, at any store they might select, whether department store, haberdashery or specialty shop. There, of course, would be no charge for these articles, since these people are past sixty-five and are assumed to be wards of the people of the

Commonwealth, and joint wards of the Federal Government.

Shelter and housing are deemed essential items of expense for people in all walks of life. Special housing, of course, is much more appreciated by, and much more necessary for elderly people because of their inability to go through narrow doors, climb stairs, fire furnaces, replace light bulbs and do the various things that are essential to the maintenance and proper upkeep of a home. We, of this Society, therefore, suggest, that in line with the program outlined by the Society, the various landlords and construction concerns throughout the United States build suitable houses for elderly couples and individuals and make these available at no cost whatever to these older people so that they may enjoy the best of housing during their twilight years.

These houses, of course, will require various services from the public utilities and suppliers. It is hoped that there will be some way to arrange for the furnishing of electricity, water, sewage disposal, telephones and oil or electricity for heating at no cost to these people. It is expected that the public utilities and fuel suppliers will be delighted to furnish these services and materials without cost, because these people are in their declining years and are entitled to preferential treatment.

It is a well known fact that the tedium of day-to-day existence in the same surroundings brings a feeling of undue depression. Periodic vacations from the drab surroundings of one's day-to-day domicile have been recommended as a stimulus to fuller living and more vital interest in the geographical, political, social and spiritual affairs of the nation. It appears to this Society that, in line with the foregoing paragraphs of this letter, the transportation industry would be delighted to offer to each person over sixty-five free transportation to the place of his choice, and that the various vacation resorts and national points of interest would be glad to accommodate these elderly guests without charge. We would suggest, however, that vacations of this type be limited to the continental United States, Alaska, Hawaii, Canada and Mexico. We feel that there would be an undue strain on the transportation facilities and hotel and rooming house accommodations of other countries if these elderly people were allowed to take their vacations in some of the far off, strange and exotic lands; however, if they were agreeable to paying a small additional charge, say $1.00 per day, such tours should probably be arranged.

The Society is well aware of the fact that even with the best of care, housing, nutrition and diversion, these people will, at intervals, become incapacitated. We suggest that all the hospitals throughout the nation, both public and private, set up their admission procedures so that elderly people—those over sixty-five—can be admitted to a hospital at their own request and remain as long as they so desire without any personal charge to them.

Inevitably, comes the fatal day when the hour of reckoning can be no longer postponed and, despite all of the efforts of the medical profession, using the facilities of the finest hospitals in the country and implemented by the finest drugs that science has been able to produce, each in his turn must be launched, individually, into the great beyond. When this natural catastrophe overtakes each individual, it is our sincere hope that the members of the mortuary profession will perform their duties and furnish the necessary accoutrements for a dignified and impressive interment. This, of course, will be without cost to the estate of the deceased. And as a final gesture of good will to a departed voter, it is only fitting that interment, inurnment or entombment be furnished without charge by the various cemeteries, crematoriums and mausoleums throughout the nation.

It strikes this Society that the singling out of the medical profession as the group designated to offer services at reduced rates, or entirely free, is little short of astounding when no other group serving older people

is expected to make any contribution whatever to the comfort of elderly citizens in their declining years. We feel sure that the calling to the attention of the American public of this inequality will immediately result in a head-long rush by all of the groups, organizations and businesses above mentioned to get on the bandwagon and offer their services entirely free. It is quite obvious that if such general philanthropy were adopted by all the people of the United States there would be no necessity for the inclusion of a provision under Social Security to offer medical attention, only, to these older people. In fact, if such a program were voluntarily adopted by the American people, Social Security would no longer have any excuse for existing and the further deduction of Social Security payments from the payrolls of American citizens could be discontinued and the surplus accumulated might be used to reduce the Federal debt, create a series of new national parks or finance the transportation of exchange students from the Congo—thus freeing private foundations and trusts from this election year obligation.

The president of this Society is fast approaching the time when he will be eligible for the wonderful services listed above, and he solicits, especially, your sponsoring this program in the Congress of the United States so that when he arrives at the predetermined age for the beginning of senility and senescence, he can look forward with serenity to a future well cared for and provided with far more of the material things of life than he has been accustomed to prior to his anticipated attainment of the age of retirement.

Yours truly,

C. C. Hatfield, M.D.
President and Sole Member
Sleepy Hollow Medical Society

In response to a letter from Dr. John Wyatt Davis, Jr., Lynchburg, to Senator Byrd, commending him on his assistance to the medical profession, the following reply was received:

Dr. John Wyatt Davis, Jr.
Chairman Public Relations
Medical Society of Virginia
701 Euclid Avenue
Lynchburg, Virginia

My dear Doctor:

I was much gratified to receive your recent letter, and I appreciate your gracious comment.

At the beginning, I was greatly concerned, as I feared the Senate would substitute the Forand bill, or some version of it, to take the place of the bill reported by the Senate Finance Committee.

The Finance Committee reported the House legislation, with amendments, by a vote of 12-5, and then, as you know, the effort was made to pass an amendment based upon the Social Security concept. This amendment was defeated in the Senate by a vote of 54 to 41, despite very powerful efforts to pass it.

I regard this vote in the Senate on the medical aid bill as one of great significance.

It is certain that similar legislation will be introduced in the next session, and all of us must be on the alert. I will continue to oppose to the utmost of my capacity any form of socialized medicine.

Thanking you for your kindness in writing me, and with warm regards, I am

Faithfully yours,
Harry F. Byrd

Editorial . . . .

Health Insurance and the Principle of "Tolerable Pain"

THE INSTITUTION of voluntary health insurance is no longer at the crossroads, but beyond, as indicated by the stout popular support for some sort of compulsory Federal intervention in the field of health insurance. Many factors have conspired to push voluntary health insurance beyond the crossroads, and if we can discern at least some, we might prevent its advance along the downhill road to complete medical socialism, or at least preserve it for segments of the population who want it. These factors touch three participants:

1. Attending physician: He must appeal to his own inner voice in the matter of unnecessary health services including hospitalization. If this voice is mute, or if economic pressure is put upon him, a potent "watchdog" committee made up of medical staff members of the hospital will assist. Such a committee has proved very effective in certain localities. The physician might make an even greater contribution to the problem in his role of propagandist, as explained next.

2. Patient: In my opinion he has done the most to push voluntary health insurance beyond the crossroads. He must be made to see the speciousness of his argument: "I am entitled to hospitalization (or medical service) since I have been paying premiums for so many years and have received nothing in return". He must be made to see that, if his insurance plan is sound actuarially, he is entitled only to NECESSARY hospitalization and medical service. If this is otherwise, insurance plans are bound to disrupt in proportion as the subscribers subscribe to such fallacy. Obviously, such a problem cannot be encountered in the field of insurance of the concrete, like fire and collision, and there is no question of the vigor and stability of these programs. Since the desire to get some tangible return for money expended is so universal, especially in those fields dealing with intangibles as opposed to burned houses or wrecked cars, (which emotion at once dooms the efficiency of each and every socialized medical scheme), the principle of "tolerable pain" must be vigorously invoked to save voluntary medical insurance. The trip to the doctor, the trip to the hospital, no longer constitute "tolerable pain" in our present age of five-day work week, rapid transportation, and commodious to luxurious medical establishments. "Tolerable pain", in our present Judeo-Christian civilization, is tantamount to *money*. Money in the present reference means *deductible clauses*. Deductible clauses need not

be made legally mandatory; premiums of policies containing them would be so reasonable to drive all others from the market-place when the patients see their advantages. The deductible clauses should be available on a sliding scale to make the "tolerable pain" suit all purses. The patient must be made to see that it is greatly to his advantage in both premiums and benefits to subscribe to the policy with the largest deductible policy he can afford to have in case of illness. Deductibles from fifty to five hundred dollars would cause relatively similar "tolerable pains" in the varying economic groups. Although the pain of a five hundred dollar bill for medical care would not be "tolerable" to many people, let the interested person see the very modest premium and the remarkable benefits of such a policy. *Regardless of the economic group, medical service under voluntary insurance must be accompanied by* "TOLERABLE PAIN".

3. Insurance carrier: All our comments about the necessity of "tolerable pain" apply infinitely more when a patient finds himself in a position to PROFIT from medical service. Three accident policies might be turned into a tidy little profit for a bump on the leg. Few doctors are sufficiently hardy to withstand the exhortation of the patient for radiologic services, no matter how minor the injury. That the patient has paid for all these policies and hence is entitled to the benefits is obviously against the general welfare because the person with one policy that is used in the proper way for *indicated* services is helping to subsidize a tidy little profit scheme of others, with inevitable raising of his own rates. Such profit schemes should be circumvented by cooperation of the nation's insurance companies, or even by law.

One serious by-product of over-utilization of health policies that has received scant (and merits much more) attention is the effect on the medical attendant. Performance of unnecessary examinations by an already over-worked physician is bound to be reflected in his attitude towards his work, which unfortunately might be carried over into other, more legitimate areas of medical practice. Less important, but, in my opinion, real, is the frame of mind of some of these patients undergoing unnecessary examinations that entail discomfort; although it is possible that my clock of forbearance is winding down along with the ticking away of time, I do feel more and more patients are protesting the admittedly strenuous preparation for a barium enema, or the chalky suspension for the gastro-intestinal series.

If voluntary health insurance is to survive vigorously, some of these matters must be met, and met successfully.

CHRISTIAN V. CIMMINO, M.D.

Current Currents

SPECIAL REPORT ON ACTIONS OF THE HOUSE OF DELEGATES OF THE AMA

The following summary covers only a few of the many important subjects dealt with by the House and is not intended as a detailed report on all actions taken.

HOSPITAL ACCREDITATION AND STAFF MEETINGS: The following resolution was introduced by the Virginia delegation as instructed by The Medical Society of Virginia House of Delegates in October:

WHEREAS, It is increasingly evident that certain regulations governing attendance at hospital staff meetings, as recommended by the Joint Commission on Accreditation of Hospitals, are adversely affecting the activities of many component societies by

(a) lowering the attendance records of component societies as a result of present requirements and regulations pertaining to hospital staff meetings;

(b) initiating policy without regard for local conditions and opinion;

(c) placing the physician in such a position that his responsibility is often to the hospital first and the component society second;

(d) affecting, by its policies, the ability of medical leadership to inform the component societies on state and national legislation so vital to the future of American medicine;

(e) interfering with medical education programs as submitted by component societies; therefore be it

RESOLVED, That the American Medical Association formally express to the Joint Commission on Accreditation of Hospitals its dissatisfaction with and disapproval of policies of the Joint Commission which adversely affect the activities of component societies.

The resolution received serious consideration by the Reference Committee on Medical Education and Hospitals. It was the Committee's opinion, concurred in by the House, that revisions in the standards of the Joint Commission on Accreditation of Hospitals would appear to solve the problem set forth in the resolution. The principal revision, covered in a supplementary report of the AMA Board of Trustees, has to do with a change in meeting and attendance requirements. Briefly, it is now up to the hospital to write its own requirements and up to the Commission to judge as to their adequacy at that specific hospital.

FOREIGN MEDICAL SCHOOL GRADUATES: The House adopted a report which included the following statement: "In order that those foreign physicians who have not yet been certified by the Educational Council for Foreign Medical Graduates might be given further opportunity to enhance their medical education, hospitals would be encouraged to develop special educational programs. Such programs must be of educational worth to the foreign graduate and must divorce him from any responsibility for patient care. Foreign physicians may participate in these programs until June 30, 1961, with approval of the Department of State so that their exchange visa will not be withdrawn before that time. This will also allow the non-certified foreign physician the opportunity to take the April, 1961, Educational Council for Foreign Medical Graduates examination."

VOLUNTARY HEALTH INSURANCE: A resolution was adopted directing the Board of Trustees and the Council on Medical Service "to assume immediately the leadership in consolidating the efforts of the American Medical Association with those of the National Association of Blue Shield Plans, the American Hospital Association and the Blue Cross Association into maximum development of the voluntary, non-profit prepayment concept to provide health care for the American people". The resolution also directed that similar leadership be undertaken "to coordinate the efforts of private insurance carriers through conferences with their national organizations".

SCHOLARSHIP AND LOAN PROGRAM: The House approved a scholarship and loan program proposed by the Special Study Committee of the Council on Medical Education and Hospitals, and urged local participation in the program at the state and county level. The program is designed to ". . . assist in securing highly talented individuals whose ability and leadership in all areas of medicine will be fostered and at the same time will bring needed financial assistance on a broad basis to medical students under a system in keeping with this Association's belief in individual responsibility".

HEALTH CARE FOR THE AGED: The House reaffirmed AMA support of the Kerr-Mills Bill, and its opposition to any legislation involving use of the OASDI mechanism for medical care for the aged. State and local medical societies were urged to cooperate with appropriate state officials and provide leadership in implementing the provisions of the Kerr-Mills Bill.

POLIO VACCINE: It was suggested that a proper committee be established by AMA to study the problems involved in administration of the new oral polio vaccine and to establish guides for physicians to follow when they are approached by various groups and asked for their support in administering oral polio vaccine.

Society Activities . . . .

The Fourth District Medical Society

Met in Hopewell on December 6th with the Hopewell Medical Staff serving as hosts. A luncheon was held at the John Randolph Hospital and the meeting was at the Officers Club at Fort Lee. Dr. Lewis Dexter, professor of medicine at Harvard Medical School, spoke on Pulmonary Embolism, and Dr. Harold Levine, also of Harvard, spoke on Rheumatic Heart Diseases. Dr. Carolyn McCue of the Medical College of Virginia discussed Heart Failure in Children.

The meeting was closed with a dinner at the Officers Open Mess.

Virginia Society of Ophthalmology and Otolaryngology.

The semi-annual meeting of this Society was held at Virginia Beach on October 10th. Following a luncheon a meeting of the Executive Council, composed of Dr. Emanuel U. Wallerstein, chairman, Drs. Calvin T. Burton, J. Lawson Cabaniss, Orvin C. Jones, Parker H. Lee, Jr., Robert L. Norment, and Maynard P. Smith, held a business meeting. Among other items discussed, it was decided to hold the annual meeting of the Society on May 3, 4, and 5 at the Golden Triangle in Norfolk.

Dr. Richard O. Smith, Pulaski, is president of this Society and Dr. M. K. Humphries, Charlottesville, secretary-treasurer.

Virginia Association of Medical Assistants.

The annual meeting of this Association was held at Natural Bridge, November 12-13. Mrs. Lucy Carwile, who is associated with Dr. John Wyatt Davis, Jr., Lynchburg, was president and presided. Mrs. Lois Clark, president of the Lynchburg Chapter, was chairman of arangements and did an outstanding job.

After the business meeting on the 12th, there was a hospitality hour, followed by the banquet, at which Mr. Roger H. Zion, Director of Sales Training, Mead Johnson & Company, was guest speaker. Mrs. Mildred Phippen, Richmond, installed the new officers as follows: President, Mrs. Lillie Rogers, Richmond; president-elect, Mrs. Mary Harris, Leesburg; Secretary, Miss Mavis M. Haywood, Richmond; and treasurer, Miss Catherine E. Proffitt, Charlottesville.

On the 13th, a program was conducted on The Law as Affects Medical Assistants. Speakers were Mr. Thomas D. Jordan, Administrative Assistant of the Office of Chief Medical Examiner, and Mr. Louis G. Fields, attorney. Both are of Richmond. In the afternoon, Dr. Lyle W. Lidbeck, Salem, Oregon, gave a most interesting discussion of the Medical Examiner's program recently inaugurated in his State.

The 1961 national convention of this Association will be held in Reno, Nevada.

News . . .

New Members.

Since the list published in the December issue of the Monthly, the following have been admitted into membership in The Medical Society of Virginia:

Porfirio Arias, M.D., Dante

Joseph Henry Bragdon, M.D., McLean

Pauline Davis Carmichael, M.D., Roanoke

Arthur Gardner Harden, M.D., Charlottesville

Ivan V. Magal, M.D., Stuart

Dean Harrington Martin, M.D., Arlington

Owen Clay Shull, M.D., Herndon

Lawrence Owen Snead, Jr., M.D., Richmond

Melissa Anthony Warfield, M.D., Norfolk

Franklin Parker Watkins, M.D., Richmond

Dr. Kenneth D. Graves Honored.

The past and present members of the Virginia State Board of Medical Examiners and their wives and friends met at the Commonwealth Club in Richmond on November 28th at a dinner in honor of Dr. Kenneth D. Graves of Roanoke, Virginia. Dr. Graves retired as Secretary and member of the Board of Medical Examiners on June 30, 1960. He was appointed to the Board in 1947 after the death of Dr. J. W. Preston and was elected to the office of Secretary-Treasurer to succeed him.

Kenneth Graves was born in Davidson, North Carolina, where his father was Professor of Romance Languages at Davidson College. Incidently, Dr. Graves' father was a student under Robert E. Lee at Washington College (later Washington and Lee). At the age of six, upon the death of his father, he and his widowed mother moved to Bedford, Virginia, where he obtained his elementary education. After completing his studies at the Southwestern Presbyterian University, he was graduated from the Medical College of Virginia in 1914. From 1914 to 1917 Dr. Graves served as the Richmond City Bacteriologist under Dr. E. C. Levy.

At the beginning of World War I, he entered the United States Army Medical Corps and served with distinction at Camp Wordsworth, South Carolina, and at Base Hospital 53, Langres, France, with the rank of Captain.

In 1919 he began the practice of Internal Medicine in Roanoke, Virginia. He was married to Margaret Stringfellow Burwell of Roanoke, Virginia. This happy union was blessed with two daughters, Mrs. Brenton Smith of Philadelphia, Pennsylvania, and Mrs. David S. McClung, II of Salem, Virginia.

In spite of his many activities relative to an active medical practice, Dr. Graves found time to devote to his family, his church, his profession and medical education and licensure in Virginia.

During World War II he was an Examiner for the Selective Service and Coordinator for Medical Examiners.

His many personal and professional honors and activities testify to his energy, devotion and sterling character.

He was the Medical Director of the Roanoke Red Cross from 1950 to 1953. He is a member and past President of the Roanoke Academy of Medicine, past Vice-President of the American Federation of State Board of Medical Examiners; member of The Medical Society of Virginia, the American Medical Association, a Fellow of the American College of Physicians and a diplomate of the American Board of Internal Medicine. He is also a member of the American Academy of Allergy and a Director of the Roanoke Valley Heart Association. Because of his

qualifications and active practice, he enjoys the privilege of the staffs of the hospitals in Roanoke: The Lewis-Gale, the Jefferson, the Roanoke Memorial, the Berrell Memorial and the Shenandoah. He is assistant surgeon for the Norfolk and Western Railroad.

Dr. Graves is a Mason, Kiwanian, Elder in the Presbyterian Church, member and past President of the Roanoke Rose Society and a member of the Shenandoah Club of Roanoke.

Dr. Graves' great love and devotion has been the Virginia State Board of Medical Examiners. For thirteen years he has been its most efficient Secretary and Treasurer. His standards of high ideals of medical education and his cooperation with Virginia's two medical schools have elevated the status of medicine in Virginia to that of envy among other states. Because of his untiring efforts and attention to minute details, the Virginia State Board of Medical Examiners and the Medical Practice Laws of Virginia are today of the highest type. Nationally, his interest and efficiency in the American Federation of State Boards raised him to the high office of the Vice Presidency.

His interest in the young physicians has been paramount. Pledged to the responsibility to the people of Virginia, the Medical Laws of Virginia and the young medical candidates, Dr. Graves' enforcement and interpretation of the Medical Practice Laws were fair and just. His gentle and kind manner portrays his lovable character.

The Virginia State Board of Medical Examiners and the Medical Profession are most grateful for the services of Kenneth Graves.

May he have a long and happy life ahead, remembering always the appreciation of the State of Virginia, the Board of Medical Examiners and the Medical Profession for his unselfish services in their behalf.

Dr. Harry J. Warthen

Has been elected a Councilor of the Society of Medical Consultants to the Armed Forces. He attended its fifteenth annual meeting at the Walter Reed Hospital in Washington, December 4-5.

University Hospital Opened.

The new six and a half million dollar addition to the University of Virginia Hospital was opened in December. The eight-story building contains 276,000 square feet of space and will provide 419 beds. This permits the closing down of all wards now located in the old original hospital buildings that were not fireproof. Wards located in the Barringer and Davis wings will be maintained in operation, giving a total bed capacity of 620. Formal dedication of the hospital will take place in April as a part of a three-day ceremony commemorating the 60th anniversary.

The building is air-conditioned throughout. Each general nursing floor has facilities for the care of disturbed patients, isolation cases, examination and treatment, in addition to the required service elements. A pediatric floor and maternity floor contain provisions for the specialized services involved. The surgical suite provides twelve major operating rooms, three minor operating rooms, five induction rooms, and a large postoperative recovery room. Other special services include a 50-bed chest surgical-diagnostic unit and four 26-bed chronic disease nursing units. A 2-story radiology building contains therapeutic facilities on the lower floor and diagnostic facilities on the upper floor.

Leesburg Street Named for Doctor.

A street in Leesburg has been named for one of the town's best known and beloved doctors—the late Dr. John Aldridge Gibson. The street is less than two blocks from where he lived and leads to the Loudoun Hospital, of which he was one of the founders.

Infirmary Named for Drs. Ray.

The new Randolph-Macon College Infirmary, now under construction at Ashland, will be named the A. Chambers Ray Infirmary. It will be named in honor of the late Drs. A. Chambers Ray and A. Chambers Ray, Jr., who, between them, served the college for more than half a century as college physicians.

New Chairman of Radiology.

Dr. Richard G. Lester will assume the position of chairman of the department of radiology at the Medical College of Virginia On April 1st. He will succeed Dr. Frederick B. Mandeville who will continue as professor of radiology. Dr. Lester is now a member of the staff of the Minnesota School of Medicine.

Doctors Suite.

Splendid location in fastest growing community in suburban Washington, Hollin Hall Village, Fairfax County, Virginia. Surrounded by over 3,000 detached homes, ranging in value from $18,000 to $40,000, with only one general practitioner in the community, who recently moved from this suite to larger quarters. Space consists of five rooms, including reception room and all necessary space for practical operation. Completely heated and air conditioned. Call SOuth 5-5066, Alexandria, Virginia. (*Adv.*)

Situation Wanted.

E.E.N.T. man, preceptorship trained, good refractionist, desires permanent association with ophthalmologist and/or otolaryngologist. Reply to #950, care The Virginia Medical Monthly, 4205 Dover Road, Richmond 21, Virginia. (*Adv.*)

IN EMOTIONALLY PROJECTED
SMOOTH-MUSCLE SPASM...

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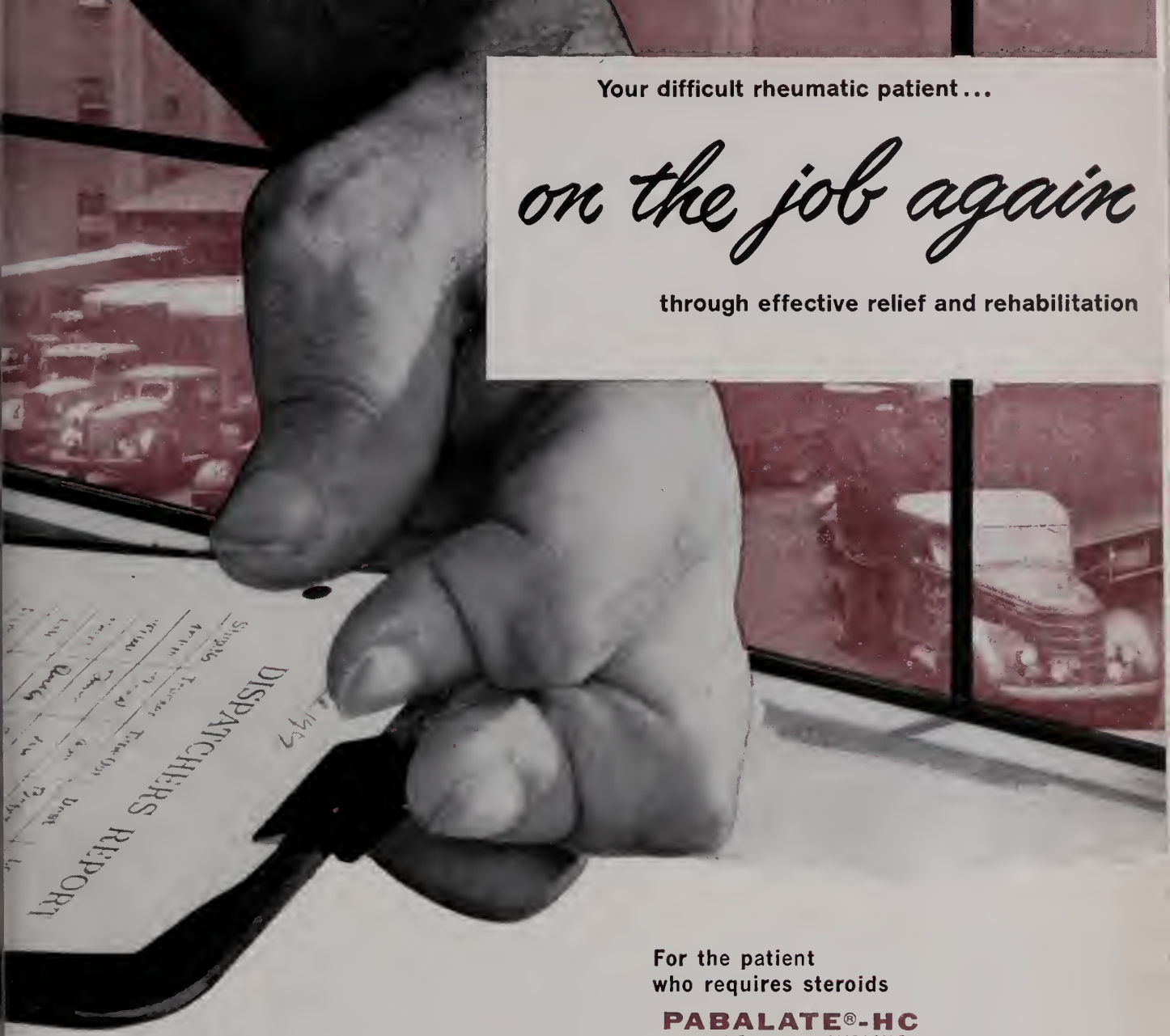

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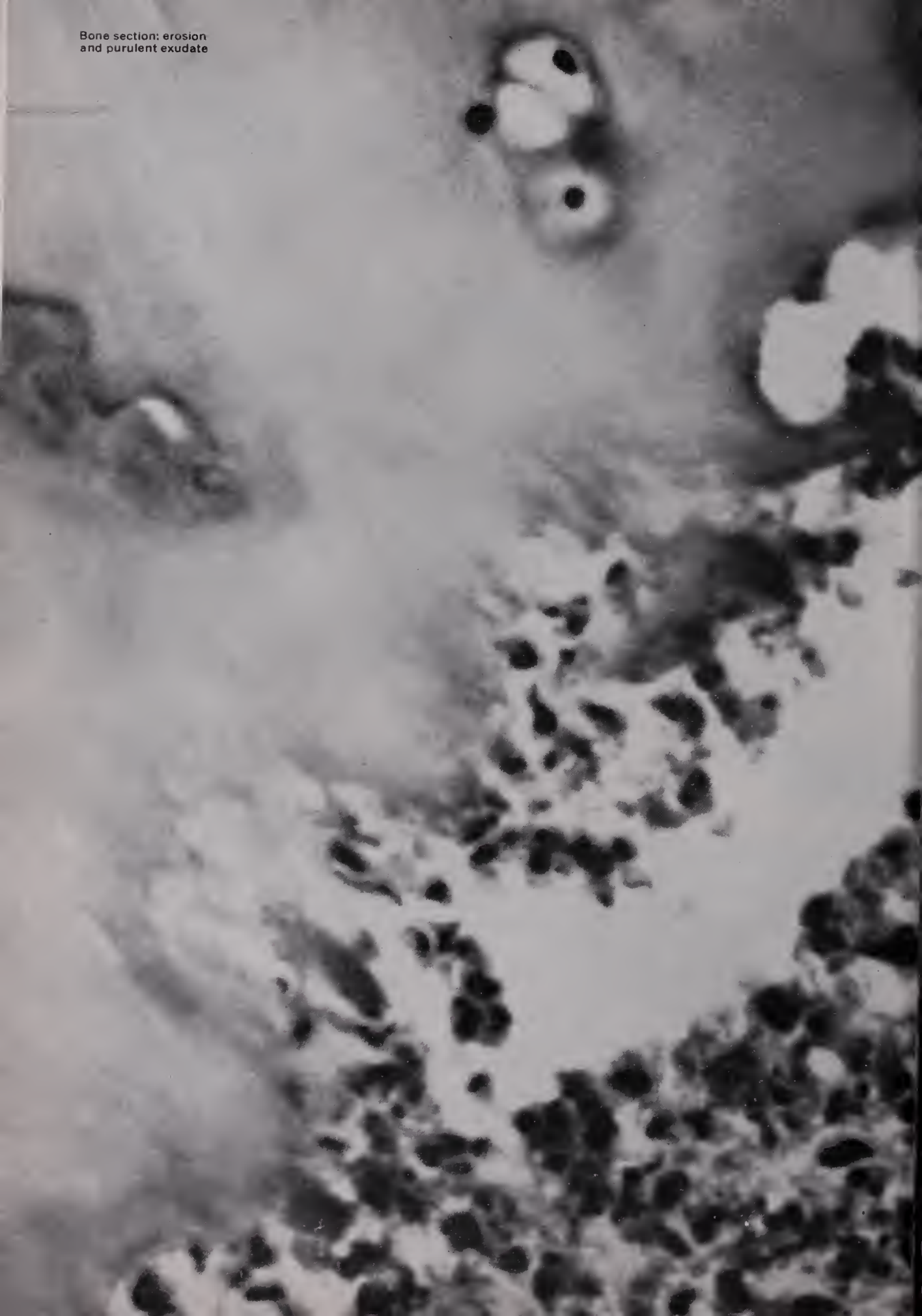
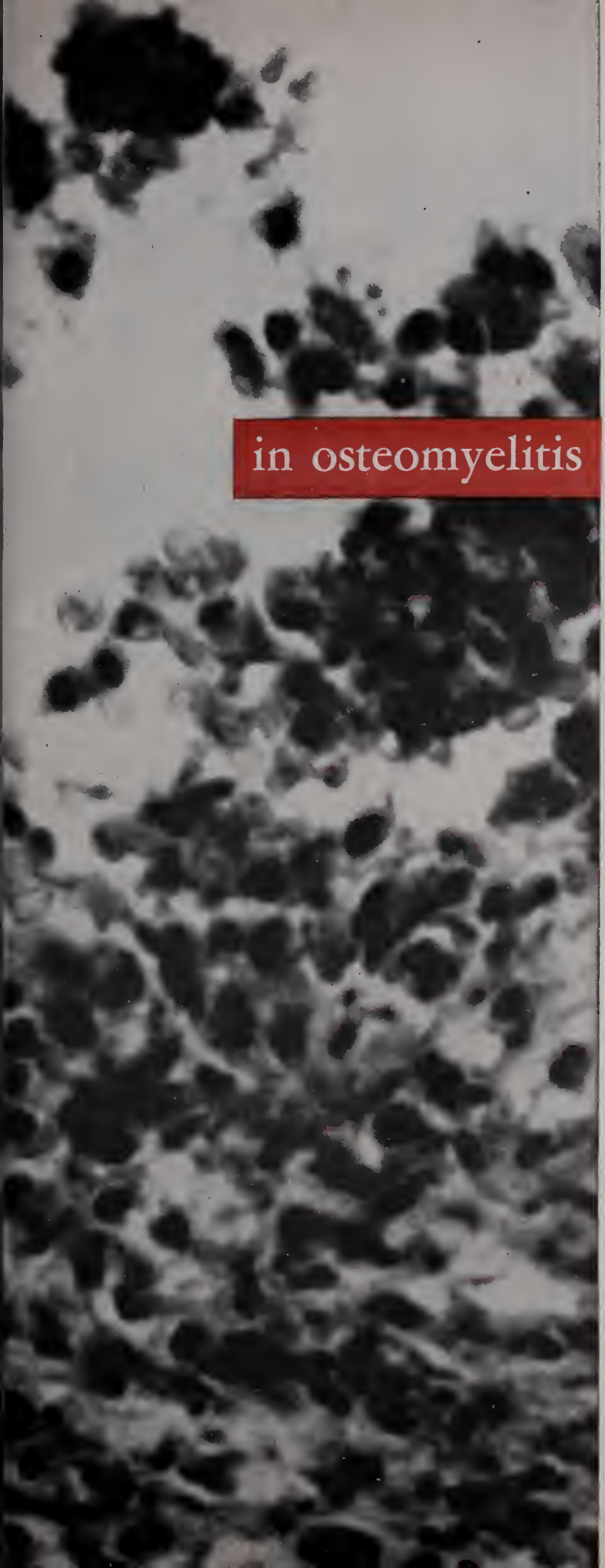


Bone section: erosion and purulent exudate



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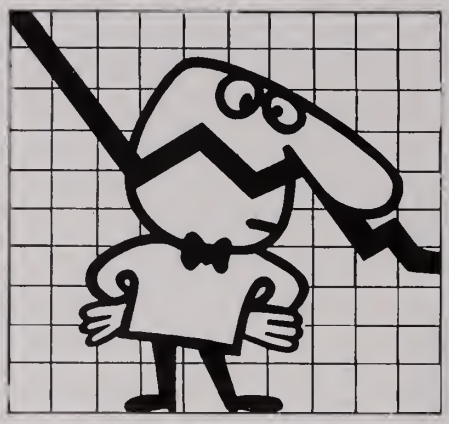

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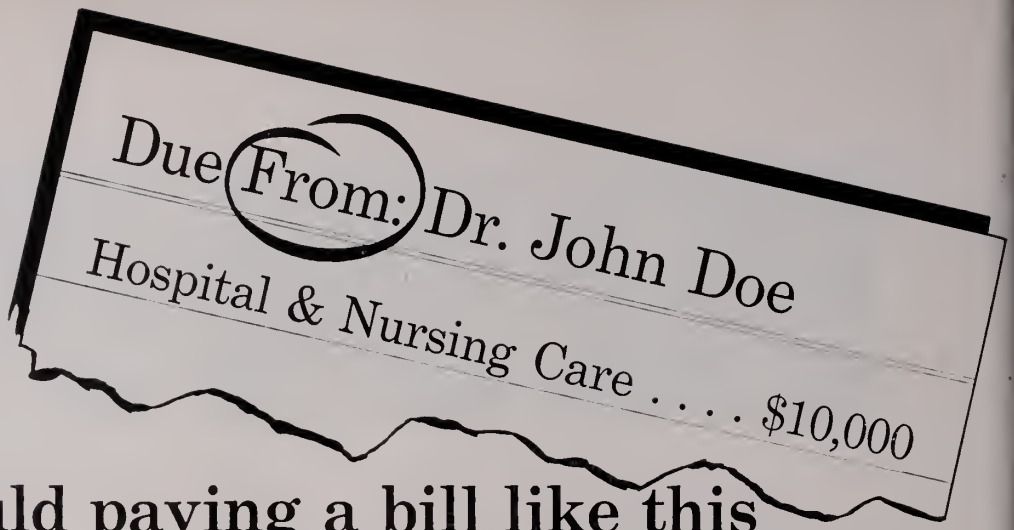

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Dosage

The usual adult dosage is 2 Trancoprin tablets three or four times daily. The dosage for children from 5 to 12 years of age is 1 tablet three or four times daily. Trancoprin is so well tolerated that it may be taken on an empty stomach for quickest effect. The relief of symptoms is apparent in from fifteen to thirty minutes after administration and may last up to six hours or longer.

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Trancoprin Tablets / non-narcotic analgesic

References: 1. DeNyse, D. L.: *M. Times* 87:1512, Nov., 1959. 2. Ganz, S. E.: *J. Indiana M. A.* 52:1134, July, 1959. 3. Gruenberg, Friedrich: *Current Therap. Res.* 2:1, Jan., 1960. 4. Kearney, R. D.: *Current Therap. Res.* 2:127, April, 1960. 5. Lichtman, A. L.: *Kentucky Acad. Gen. Pract. J.* 4:28, Oct., 1958. 6. Mullin, W. G., and Epifano, Leonard: *Am. Pract. & Digest Treat.* 10:1743, Oct., 1959. 7. Shanaphy, J. F.: *Current Therap. Res.* 1:59, Oct., 1959. 8. Collective Study, Department of Medical Research, Winthrop Laboratories. 9. Hergesheimer, L. H.: An evaluation of a muscle relaxant (Trancopal) alone and with aspirin (Trancoprin) in an industrial medical practice, to be submitted.

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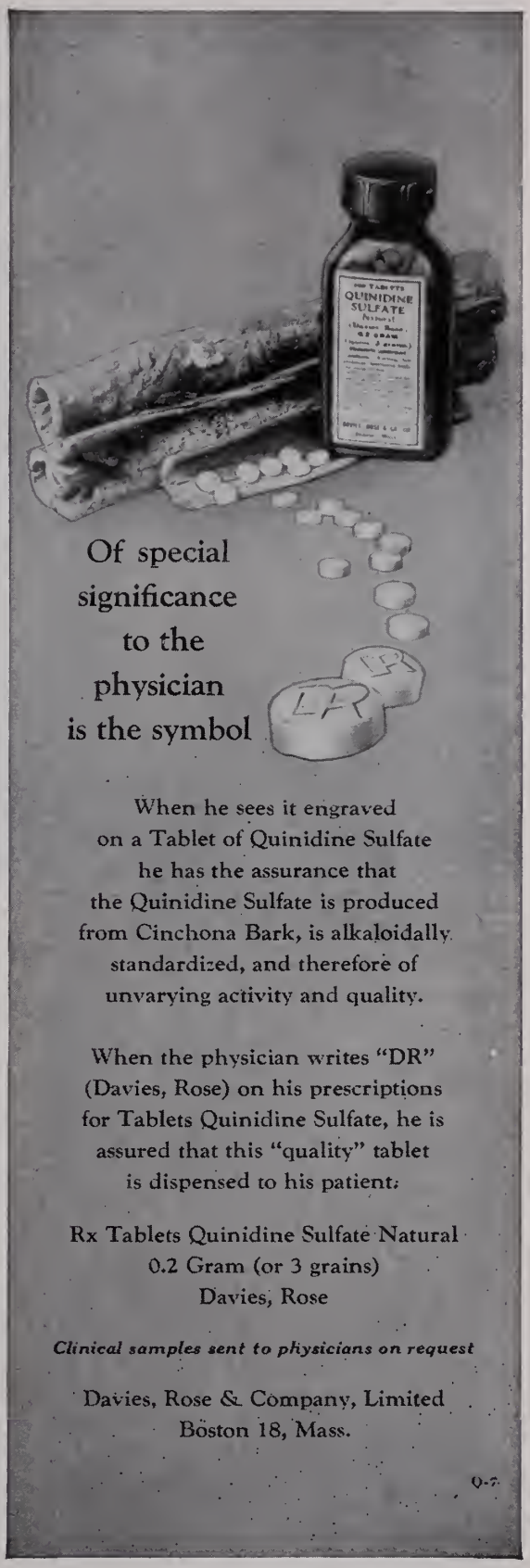

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References: Drugs of Choice: W. Modell, M.D., 1959; Pg. 131, 132.

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References: Drugs, Their Nature, Action and Use; H. Beckman, M.D., 1958; Pg. 502, 504, 505.

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Source: Harrison, T. R., *et al.*: Principles of Internal Medicine, ed. 3, New York, McGraw-Hill Book Co., 1958, p. 620.

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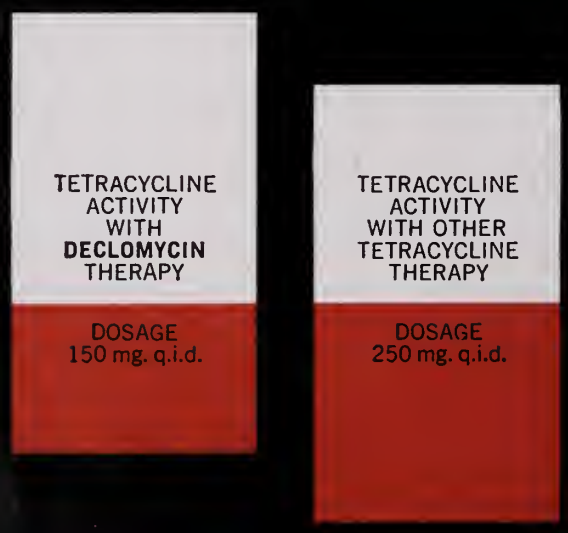
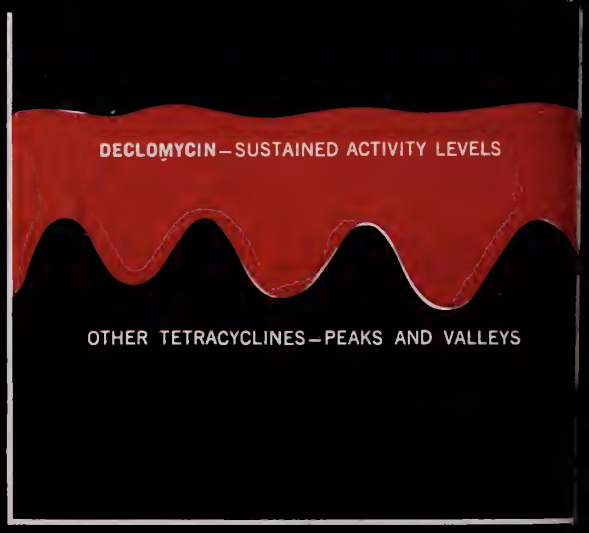


POSITIVE ANTIBACTERIAL ACTION



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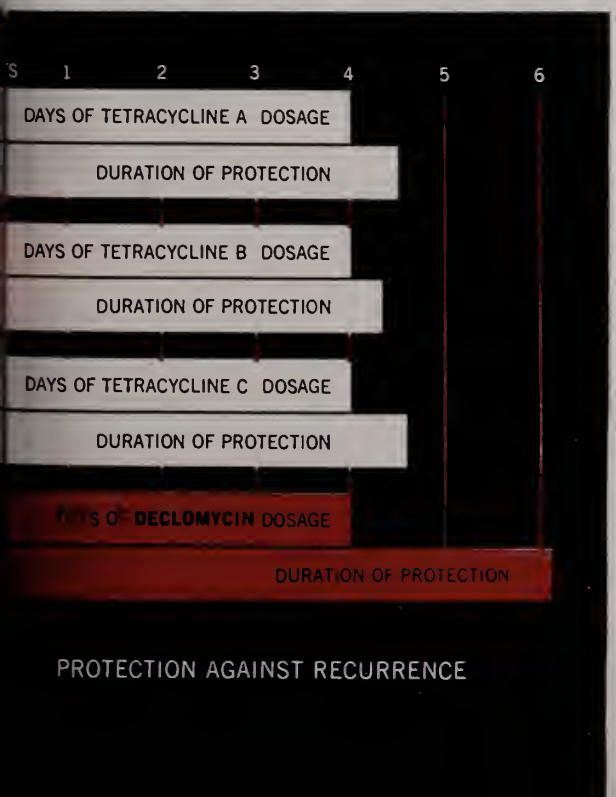

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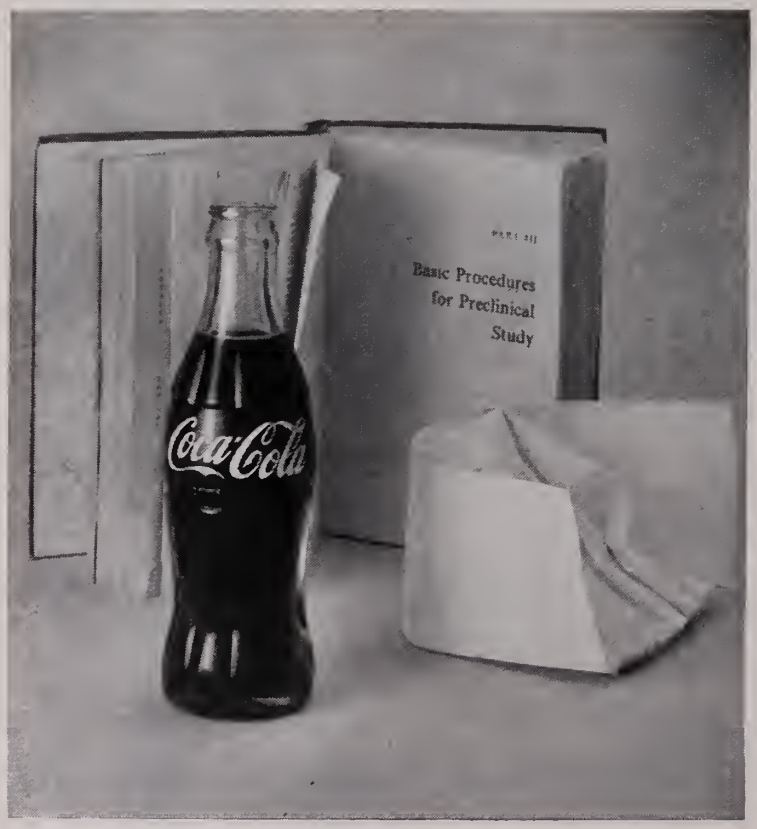

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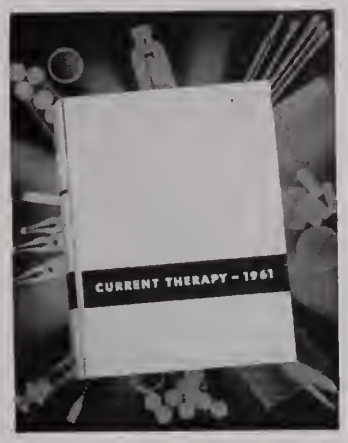

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TABLETS

Composition: Compressed tablets of Penicillin G Potassium, buffered with Calcium Carbonate. Each tablet contains 500,000 units of crystalline Penicillin G Potassium.

Uses: In mild or moderately severe Gram-positive infections except penicillin-resistant staphylococcic infections. Usually well tolerated with few if any side effects.

Dosage: One tablet every four to six hours.

Caution: Federal law prohibits dispensing without prescription.

Supplied: Bottles of 100 and 1000.
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References: Drugs of Choice: W. Modell, M.D., 1959; Pg. 131, 132.

K-CILLIN-500
for SYRUP

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References: Drugs, Their Nature, Action and Use; H. Beckman, M.D., 1958; Pg. 502, 504, 505.

LITERATURE and CATALOG ON REQUEST

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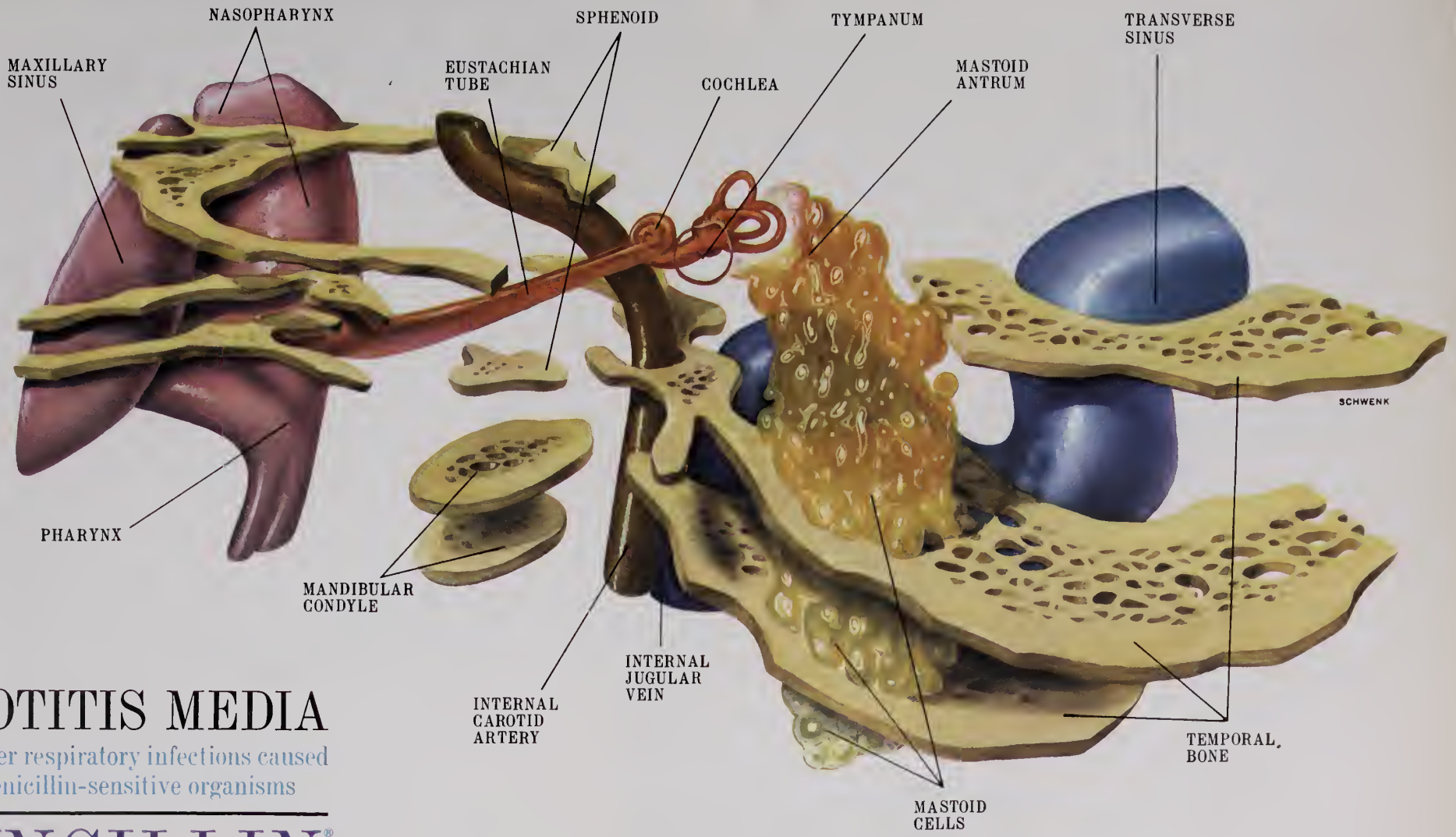

IN OTITIS MEDIA

and upper respiratory infections caused by penicillin-sensitive organisms

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(phenoxyethyl penicillin potassium)

This diagram represents the lateral aspect of the left middle ear and related structures. The bony landmarks are shown in serial sections.

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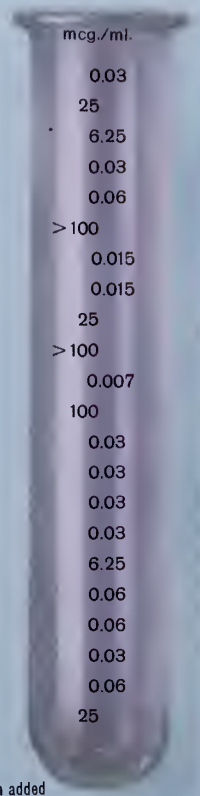
A dosage form to meet the individual requirements of patients of all ages in home, office, clinic, and hospital: Syncillin Tablets—250 mg. and Syncillin Tablets—125 mg. Syncillin for Oral Solution—60 ml. bottles—when reconstituted, 125 mg. per 5 ml. • Syncillin Pediatric Drops—1.5 Gm. bottles. Calibrated dropper delivers 125 mg.

Effective in vitro antibacterial activity against penicillin-sensitive organisms*

	mcg./ml.
Bacillus anthracis	0.03
Bacillus cereus	25
Bacillus circulans ATCC 9961	6.25
Corynebacterium xerosis	0.03
*Diplococcus pneumoniae	0.06
Escherichia coli ATCC 8739	>100
Gaffkya tetragena	0.015
Micrococcus flavus	0.015
Salmonella paratyphi A	25
Salmonella typhosa	>100
Sarcina lutea ATCC 10054	0.007
Shigella sonnei	100
Staphylococcus aureus 209P	0.03
Staphylococcus aureus var. Smith	0.03
Streptococcus agalactiae ATCC 1077	0.03
Streptococcus dysgalactiae ATCC 9926	0.03
Streptococcus faecalis PCI 1305	6.25
*Streptococcus pyogenes 203	0.06
*Streptococcus pyogenes Digonnet	0.06
Streptococcus pyogenes 2320	0.03
Streptococcus pyogenes 23586	0.06
Vibrio comma	25

Serial dilution technique in heart infusion broth *10% serum added



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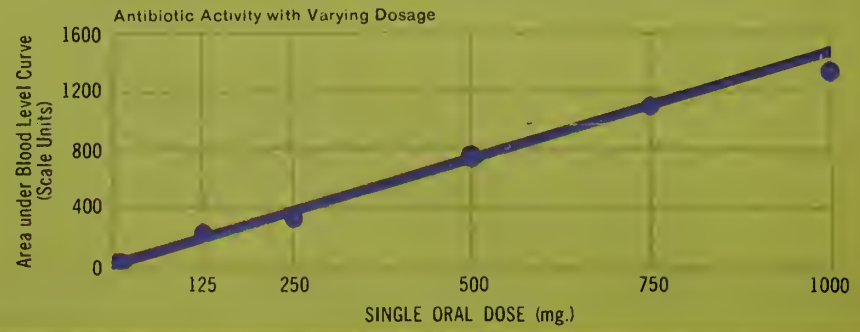
Direct control of blood levels: serum concentration proportional to size of dose*



*As is true with all antibiotics, clinical response does not always correlate exactly with in vitro bacterial sensitivity reports or laboratory blood level findings. However, these are useful guides.

Dosage: 125 mg. or 250 mg. 3 times a day, depending on severity of the infection, and on age and weight of the patient. Larger dosage (e.g., 500 mg. t.i.d.) may be used for more severe infections. Although maximum absorption is obtained in the fasting patient, clinically adequate blood levels are almost always obtained when SYNCILLIN is administered with meals. Treatment should be continued until physician is confident infection has been overcome. ☐ Beta-hemolytic streptococcal infections should be treated for at least 10 days to help prevent the development of rheumatic fever. Even more prolonged therapy may be required for certain staphylococcal infections. ☐ Complete information on indications and precautions is included in the official circular accompanying each package.

new clinical study[1] cites beneficial results in over 90% of cases in

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Use of **SARDO** in 118 dermatological patients to relieve dry, itchy, scaly, fissured skin achieved these excellent results:

CASES	AFTER SARDO*		
	Excellent	Good	Poor
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20 Atopic dermatitis	8	10	2
13 Actinic changes	9	4	–
10 Ichthyosis	3	4	3
Skin Conditions	Benefited	No Benefit	
20 Nummular dermatitis	19	1	
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SARDO acts[1,2] to (A) lubricate and soften skin, (B) replenish natural emollient oil, (C) prevent excessive evaporation of essential moisture.

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1. Weissberg, G.: Clin. Med., June 1960.

2. Spoor, H. J.: N. Y. St. J. Med., Oct. 15, 1958.

*patent pending
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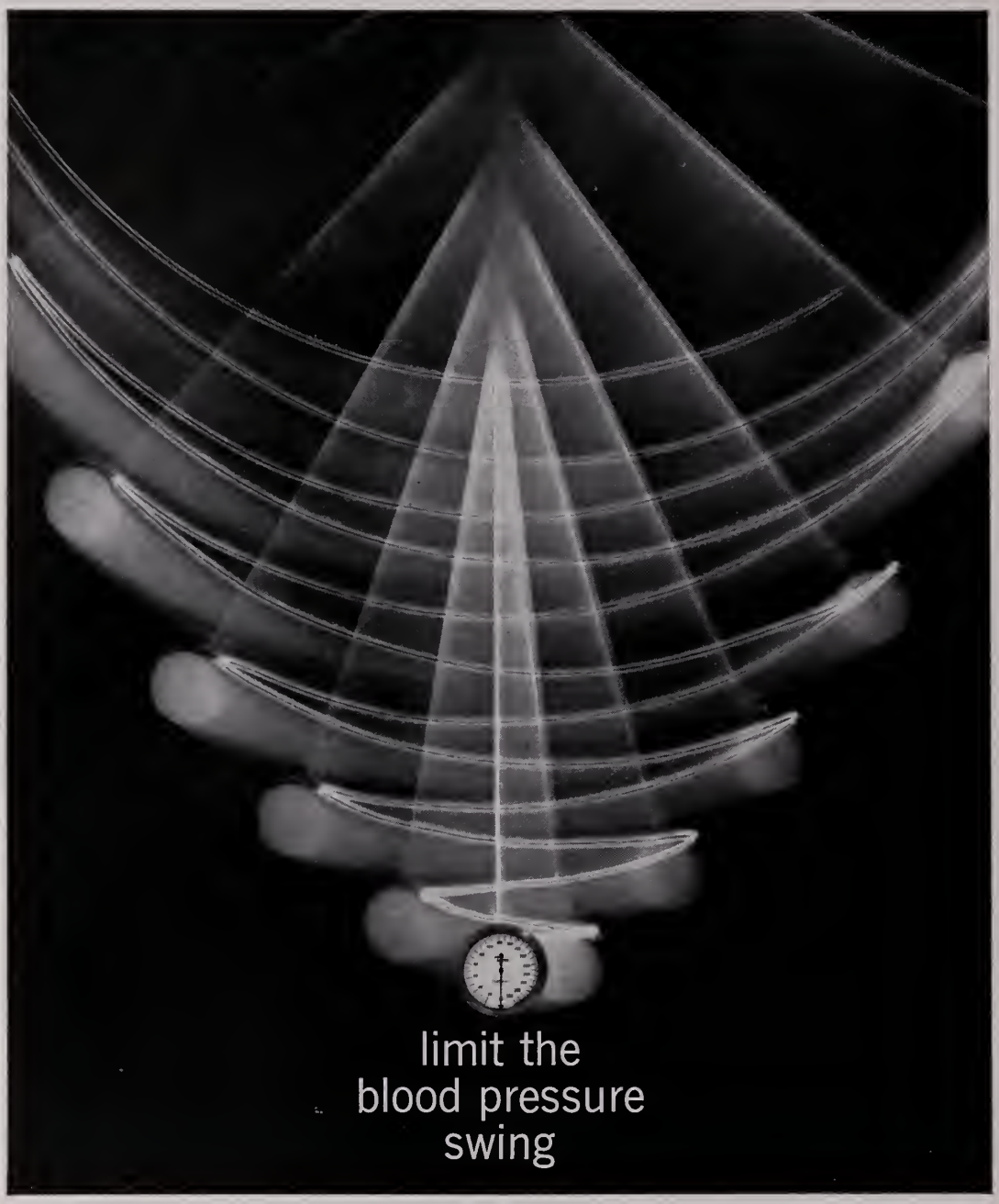
for **SAMPLES** and complete reprint of Weissberg paper, please write . . .

Sardeau, Inc. 75 East 55th Street, New York 22, N. Y.



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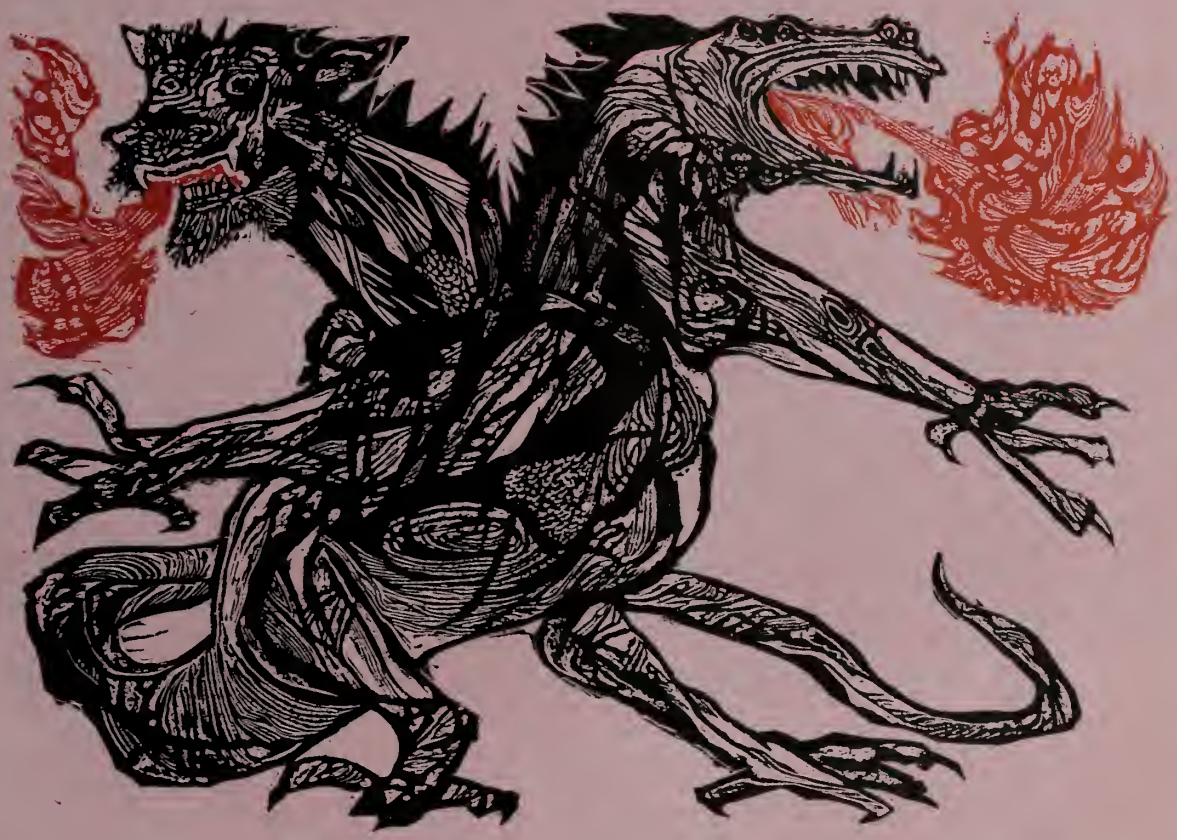

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ROBAXIN® with Aspirin

A dual-acting skeletal muscle relaxant-analgesic, combining the clinically proven relaxant action of ROBAXIN with the time-tested pain relieving action of aspirin.

Each ROBAXISAL Tablet contains:
ROBAXIN (methocarbamol Robins) 400 mg. Acetylsalicylic acid (5 gr.)..... 325 mg.
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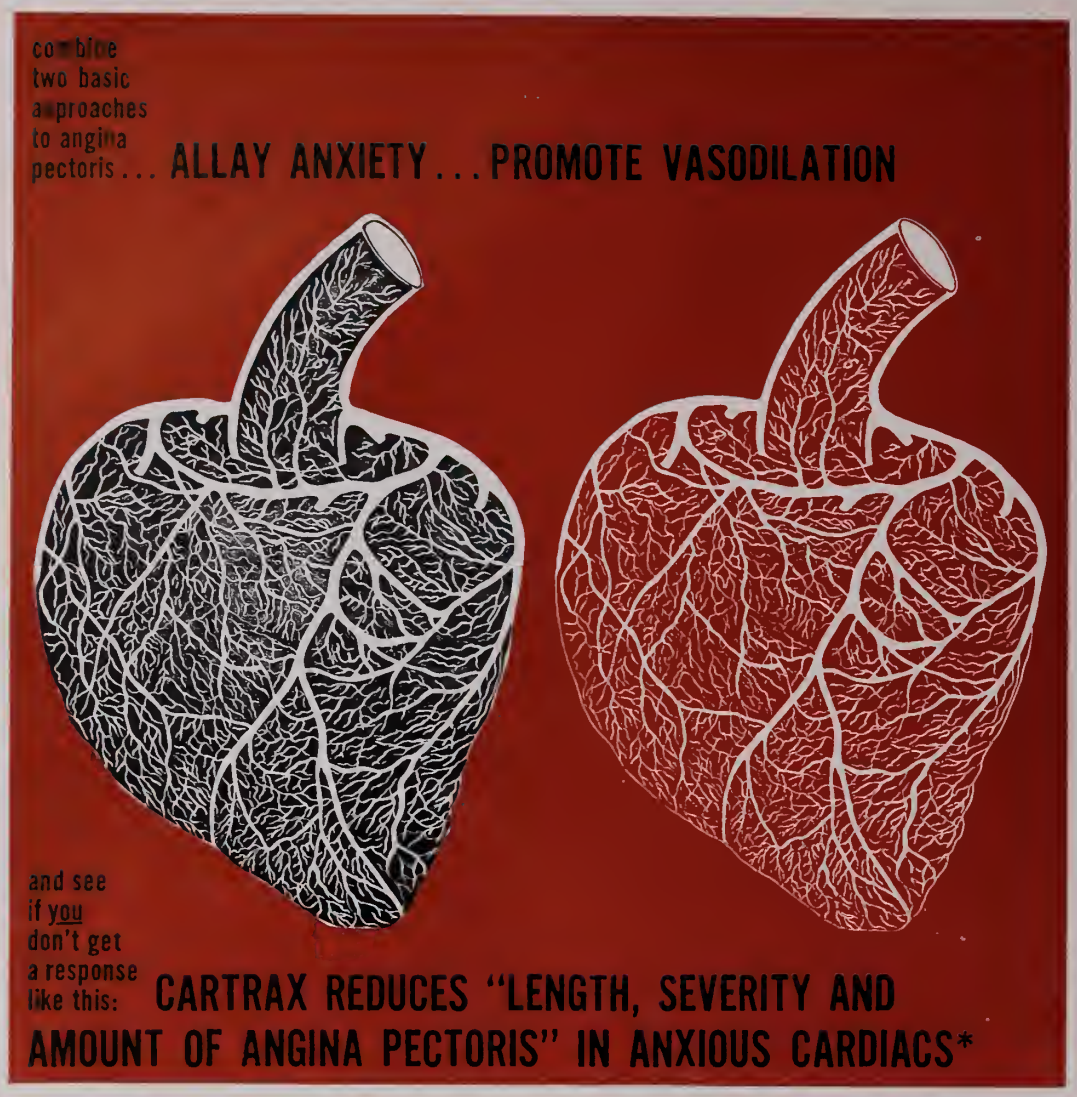

Clark treated 31 anginal patients who showed signs of anxiety, fear, excitement and other forms of emotional stress. On CARTRAX, all 31 fared better than they had on previous therapy . . . as judged both by subjective reports and by reduced nitroglycerin requirements.*

CARTRAX combines PETN (for prolonged vasodilation) with ATARAX (the tranquilizer preferred for angina patients because of its safety and mild antiarrhythmic properties). Thus, CARTRAX helps you to cope with both components of angina pectoris—circulatory and emotional.

For a better way to help your angina patients relax, prescribe CARTRAX.

*Clark, T. E., in press.

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PETN† + ATARAX®†† **Dosage:** Begin with 1 to 2 yellow CARTRAX "10" tablets (10 mg. PETN plus 10 mg. ATARAX) 3 to 4 times daily. For dosage flexibility, CARTRAX "20" (pink) tablets (20 mg. PETN plus 10 mg. ATARAX) may be utilized at a level of one tablet three to four times a day. The tablets should be administered before meals for optimal response. For convenience, write "CARTRAX 10" or "CARTRAX 20." As with all nitrates, use with caution in glaucoma. **Supplied:** In bottles of 100. Prescription only.

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when you suspect
it may become more
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TETRACYCLINE PHOSPHATE COMPLEX WITH PHENYLTOLOXAMINE AND APC

Only a single prescription provides:

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- symptomatic relief of aches, pains, fever, coryza and rhinorrhea associated with upper respiratory infections
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Each
TETREX-APC with BRISTAMIN
Capsule contains:

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TETREX (tetracycline phosphate complex equivalent to tetracycline HCl) ..... 125 mg.
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Aspirin ..... 150 mg.
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Dosage: Adults: 2 capsules 3 or 4 times a day for 3 to 5 days.
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Supplied: Bottles of 24 and 100 capsules.

According to a report by the Council on Drugs of the American Medical Association,* antibiotics may be administered for prophylaxis against secondary bacterial invaders in the following types of patients with influenza: pregnant women; debilitated infants; older individuals; patients being treated for other bacterial infections with chemotherapeutic agents, and patients with chronic, nonallergic respiratory disease.

*Council on Drugs, J.A.M.A. 165:58 (Sept. 7) 1957.

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BRISTOL™

Available only to physicians for their distribution—

Complete Cholesterol Depressant Menus and Recipe Book

A new, authoritative patient-aid . . . for professional distribution only

Now available for use in your practice from The Wesson People . . . easy-to-use manual of 40 pages, including all necessary diet instructions . . . menus, recipes, shopping and cooking guidance . . . all worked out for you . . . so arranged and printed that you have only to check the desired daily calorie level before giving the book to your patient.

You will find this book invaluable for treating patients with elevated serum cholesterol.

Complete menus for 10 days enable you to prescribe diets which are appetizing, nutritiously adequate and which can exert cholesterol depressant activity. Special attention has been given to constructing the menu patterns so that they adhere as closely as permissible to the patient's normal eating habits.

NRC Standards fulfilled. Each menu has been calculated to provide the proper daily allowance of proteins, vitamins and other nutrients as recommended by the Food and Nutrition Board of the National Research Council.

Weight control is achieved as each day's menu is given at 3 calorie levels—1200, 1800 and 2600 calories. You prescribe the level most desirable and modify as desired.

Variety and appetite appeal for patient are built into the menu plan to an extent not previously accomplished. Alternate choices for main dishes minimize monotony, encourage the patient to follow closely the menu plan you specify.

Complete recipes—65 in all—are included to assure that the specified menus provide prescribed levels of calories, the pre-determined ratio of poly-unsaturated to saturated fat, plus essential nutrients.

Dietary fat is controlled so that approximately 36% of the total calories are derived from fat and at least 40% of these fat calories are from poly-unsaturated components (linoleates) as found in pure vegetable oil. The replacement of saturated dietary fat by this percentage of poly-unsaturated fat has been found in clinical studies most effective in the reduction of serum cholesterol and in its maintenance at desirable levels. More liberal menus are provided for maintenance after the patient's progress indicates that desired therapeutic results have been accomplished.

Family meal preparation is simplified. The menus are planned around favorite foods having wide appetite appeal for all members of the household. Patients can entertain in comfort—enjoy cakes, cookies, snacks, prepared with recipes which meet medical requirements.

A high degree of satiety is achieved even at the lower calorie levels, because Wesson provides an unexcelled source of concentrated, slow-burning food energy.

Adaptable for use with diabetics. Carbohydrates have been calculated to fall within the acceptable range for patients to whom a diet planned for diabetes is important. Calories, which must be supplied from fat when the carbohydrate intake is limited, are provided by desirable poly-unsaturated vegetable oil.

WESSON'S IMPORTANT CONSTITUENTS

Wesson is 100% cottonseed oil—winterized and of selected quality

Linoleic acid glycerides (poly-unsaturated)	50-55%
Oleic acid glycerides (mono-unsaturated)	16-20%
Total unsaturated	70-75%
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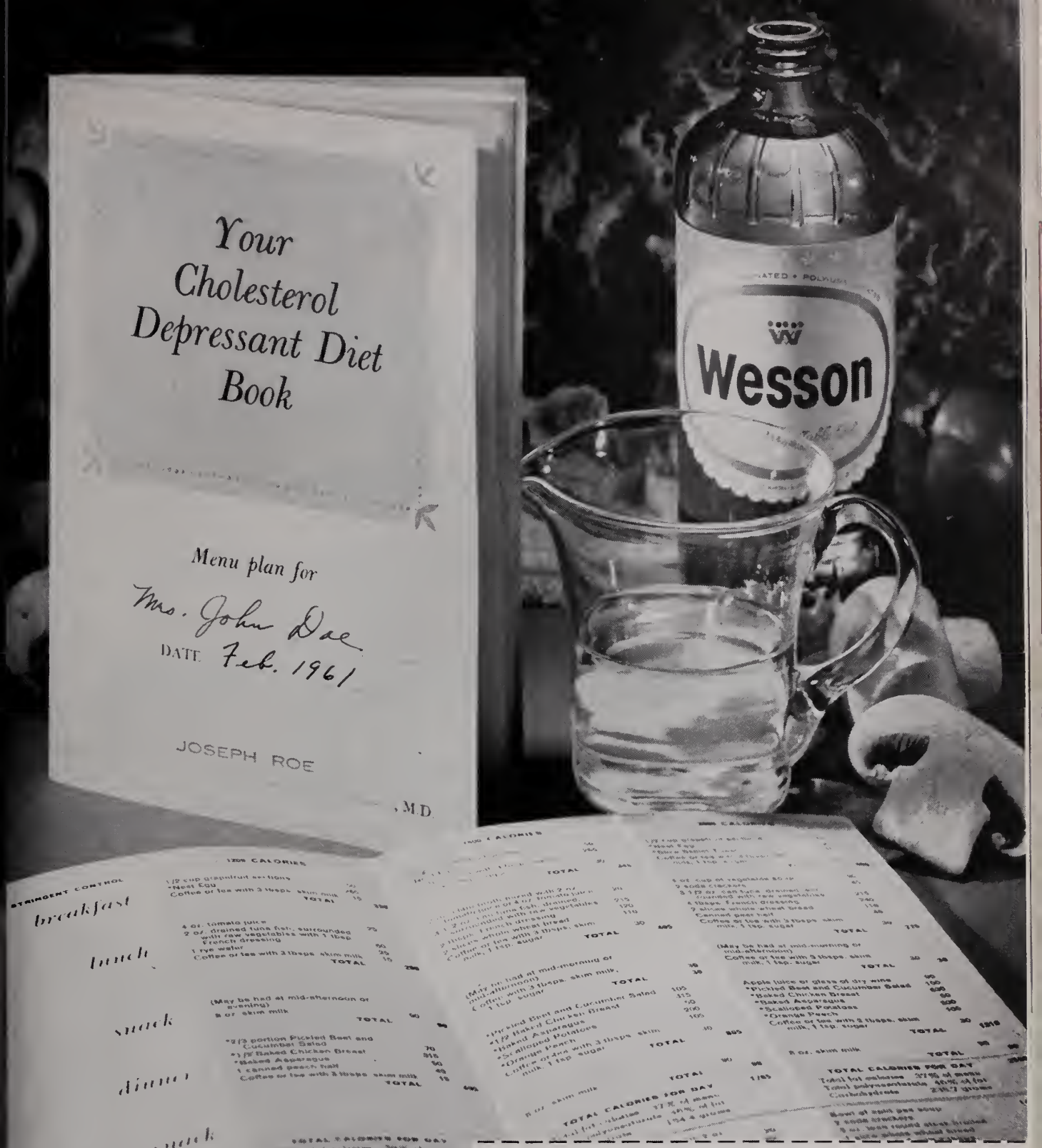
Phytosterol (Predominantly beta sitosterol)	0.3-0.5%
Total tocopherols	0.09-0.12%

Never hydrogenated—completely salt free

Poly-unsaturated Wesson is unsurpassed by any readily available brand, where a vegetable (salad) oil is medically recommended for a cholesterol depressant regimen.



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Please send_____free copies of
"Your Cholesterol Depressant Diet Cook Book" for use with patients.

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Effective

for relief of anxiety and tension

Outstandingly Safe

1. simple dosage schedule produces rapid, reliable tranquilization without unpredictable excitation
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3. does not produce ataxia, change in appetite or libido
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Miltown

meprobamate (Wallace)

Usual dosage: One or two 400 mg. tablets t.i.d.
Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets.
Also as MEPROTABS* — 400 mg. *unmarked,* coated tablets; and as MEPROSPAN® — 400 mg. and 200 mg. *continuous release* capsules.

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# of clinical use...

...for the tense and nervous patient

Despite the introduction in recent years of "new and different" tranquilizers, Miltown continues, quietly and steadfastly, to gain in acceptance. Meprobamate (Miltown) is prescribed by the medical profession more than any other tranquilizer in the world.

The reasons are not hard to find. Miltown is a ***known*** drug. Its few side effects have been fully reported. ***There are no surprises in store for either the patient or the physician.***

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Kills pain

stops tension

For neuralgias, dysmenorrhea, upper respiratory distress, postsurgical conditions... new compound kills pain, stops tension, reduces fever—gives more complete relief than other analgesics.

Soma Compound is an entirely new, totally different analgesic combination that contains three drugs. First, Soma: a new type of analgesic that has proved to be highly effective in relieving both pain and tension.* Second, phenacetin: a "standard" analgesic and antipyretic. Third, caffeine: a safe, mild stimulant for elevation of mood. As a result, the patient gets more complete relief than he does with other analgesics.

Soma Compound is nonnarcotic and nonaddicting. It reduces pain perception without impairing the natural defense reflexes.*

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soma® Compound

Composition: Soma (carisoprodol), 200 mg.; phenacetin, 160 mg.; caffeine, 32 mg.
Dosage: 1 or 2 tablets q.i.d.
Supplied: Bottles of 50 apricot-colored, scored tablets.

NEW FOR MORE SEVERE PAIN

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BOOSTS THE EFFECTIVENESS OF CODEINE: Soma Compound boosts the effectiveness of codeine. Therefore, only ¼ grain of codeine phosphate is supplied to relieve the more severe pain that usually requires ½ grain.

Composition: Same as Soma Compound plus ¼ grain codeine phosphate.
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Supplied: Bottles of 50 white, lozenge-shaped tablets; subject to Federal Narcotics Regulations.

**References available on request.*

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to prevent
and clear up

diaper rash

DESITIN®
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physically Desitin Ointment assures constant protection against the irritation of urine and excrement.

bacteriostatically it markedly inhibits ammonia-producing bacteria.

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in infectious disease[17,22,30,38]
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Patients with chronic disease deserve the nutritional support provided by

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Squibb Vitamin-Minerals for Therapy

11 vitamins, 8 minerals clinically-formulated and potency protected to provide

enough nutritional support to do some good

with vitamins only

Theragran
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1-41 a list of the above references will be supplied on request.

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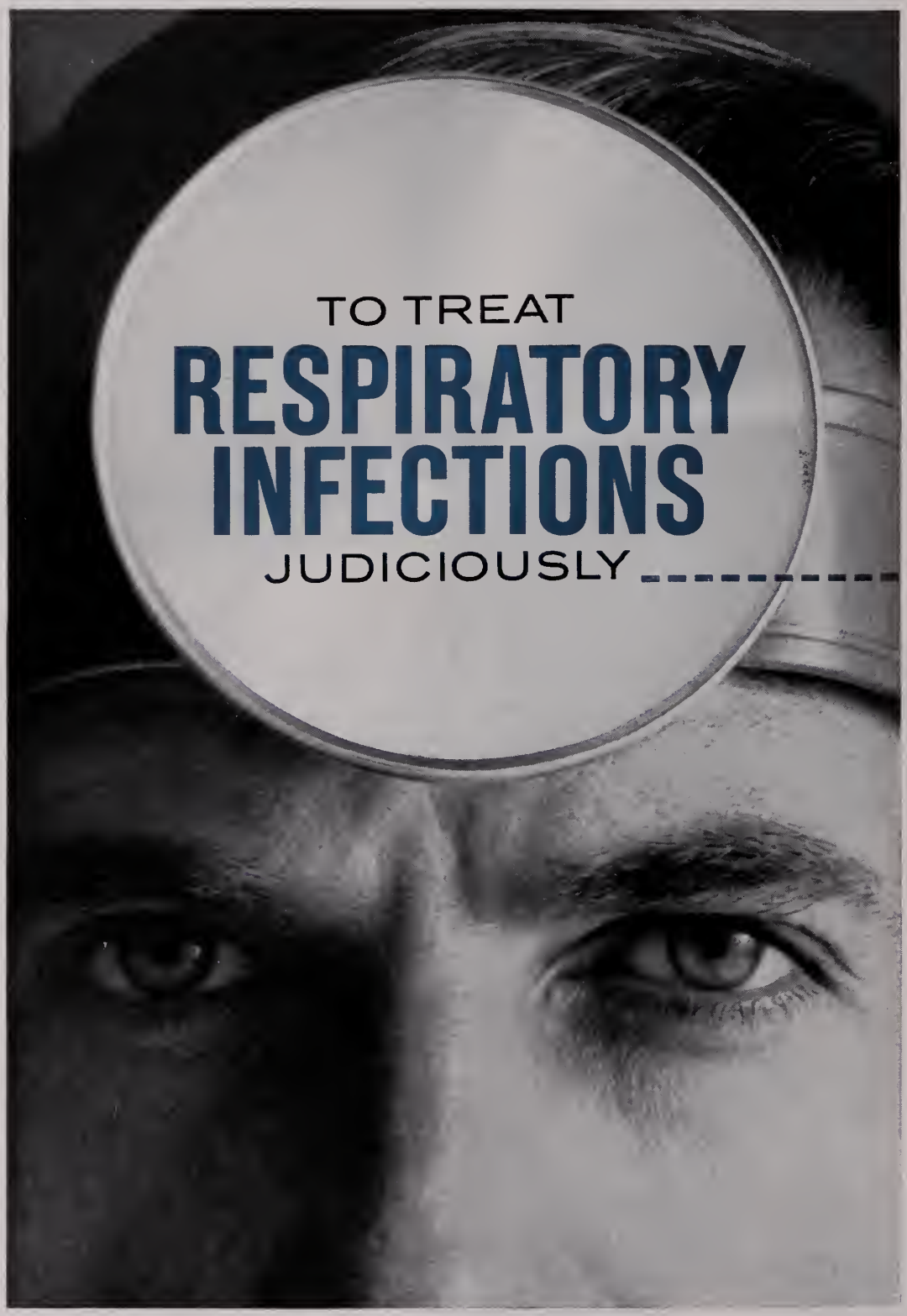
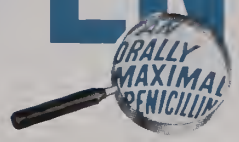

TO TREAT
RESPIRATORY
INFECTIONS
JUDICIOUSLY

When it's penicillin-susceptible
and the patient is not allergic
Use an orally maximal penicillin

MAXIPEN®

potassium phenethicillin



Consistent dependable therapeutic response through maximal absorption, maximal serum concentration and longer duration of inhibitory antibiotic levels for less susceptible organisms.

Available as Maxipen Tablets, 125 mg. and 250 mg.; Maxipen for Oral Solution, 125 mg. per 5 cc. of reconstituted liquid.

Literature on request

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When you hesitate to use penicillin
(eg. possible bacterial resistance or allergic patient)

You can count on

TAO®

triacetyloleandomycin

Extends the Gram-positive spectrum of usefulness to include many staphylococci resistant to one or more of the commonly used antibiotics—*narrows* the spectrum of side effects by avoiding many allergic reactions and changes in intestinal bacterial balance.

Available as Tao Capsules, 250 and 125 mg.; Tao Oral Suspension, 125 mg. per 5 cc.; Tao Pediatric Drops, 100 mg. per cc. of reconstituted liquid; Intramuscular or Intravenous as oleandomycin phosphate. Other Tao formulations also available: Tao®-AC (Tao, analgesic, antihistaminic compound) Tablets; Taomid® (Tao with Triple Sulfas) Tablets, Oral Suspension.

Literature on request

and for nutritional support **VITERRA®** vitamins and minerals

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New Isuprel Compound Elixir, with a pleasant vanilla flavor, keeps the bronchi dilated in patients with asthma and chronic bronchitis. Isuprel Compound Elixir permits easy breathing, prevents bronchospasm, promotes expectoration and reduces wheezing or disturbing allergic or bronchitic cough.

Isuprel Compound Elixir is a balanced expectorant bronchodilator. It provides three bronchodilators, **Isuprel, ephedrine** and **theophylline**, with the expectorant **potassium iodide** in one palatable mixture. It also contains **Luminal*** to negate any possible side effects from the adrenergic medication and to provide a mild sedative effect. Isuprel Compound Elixir makes patients more serene by preventing or alleviating symptoms and prolonging relief, day or night.

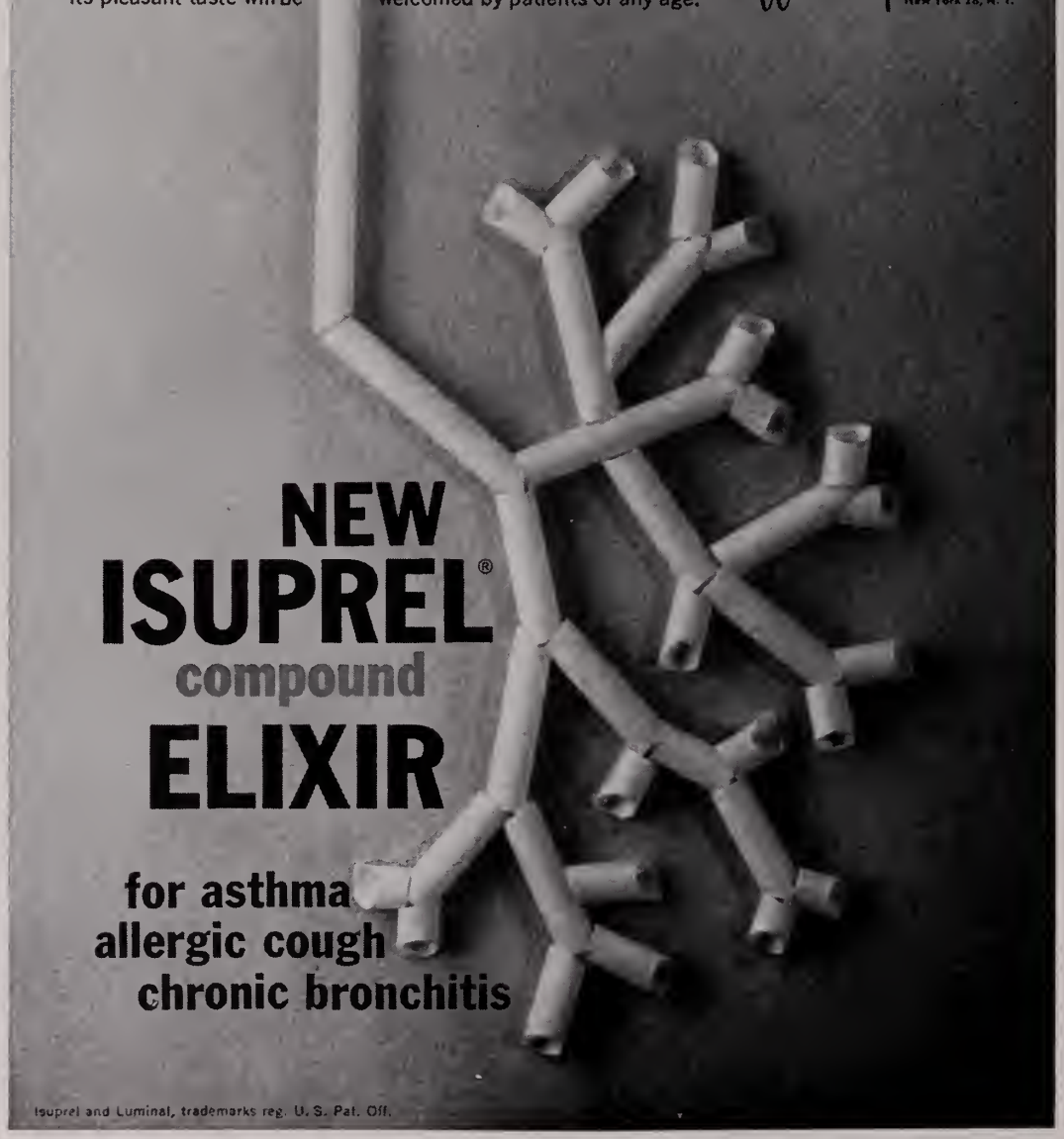
Isuprel Compound Elixir is especially suitable for children, but its pleasant taste will be welcomed by patients of any age.

Each tablespoon (15 cc.) contains:

Isuprel (brand of isoproterenol) HCl	2.5 mg.
Ephedrine sulfate	12 mg.
Theophylline	45 mg.
Potassium iodide	150 mg.
Luminal (brand of phenobarbital)	6 mg.
Alcohol	19%

Dosage:
Children—from 1 to 3 teaspoons (5 to 15 cc.) three times daily as required. Adults—1 or 2 tablespoons (15 to 30 cc.) three or four times daily as required.

Winthrop LABORATORIES New York 18, N. Y.



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Sun. Mon. Tue. Wed. Thur. Fri. Sat.

Dosage: 2 Tablets B.I.D. (A.M. & P.M.)

[redacted]

in premenstrual tension only neo Bromth treats the whole syndrome

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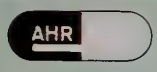

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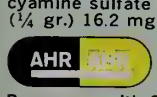

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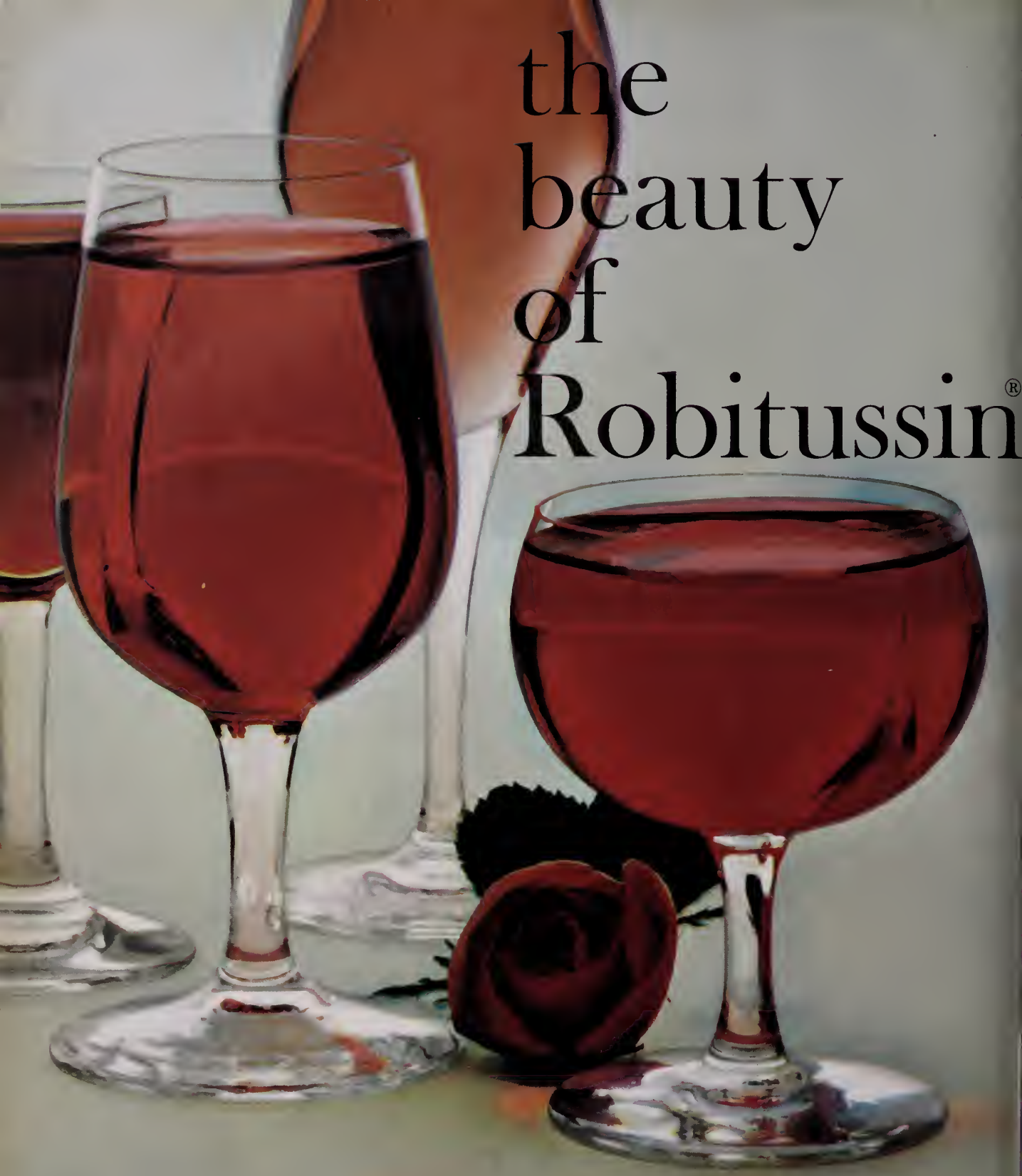

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The Virginia
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MONTHY

February, 1961
Vol. 88, No. 2
Whole No. 1305

Guest Editorial....

House Staff Recruiting and Hospital Standards

ALL APPROVED HOSPITALS must now submit to the results of the examination of the Educational Council for Foreign Medical Graduates in selecting foreign applicants for internships and residencies. This device purposes to raise standards of hospital care in this country by expelling and excluding from hospitals foreign medical graduates who fail to measure up to an arbitrary mark on an IBM type, one-day examination.

Whether this purpose will be achieved by this scheme remains to be seen. Meanwhile, certain obvious effects are being felt. The reduction of the number of foreign medical graduates, estimated at 40 to 50%, means that in many hospitals existing house staffs will be greatly depleted while others now having a house staff will have none. In such hospitals the obligation and opportunity to teach which is itself a stimulus to raise and maintain standards is lost; the presence of critical junior associates who regardless of their origin play the role of conscience in hospitals is gone; and many patient services formerly performed by professional hands are now necessarily relegated to technical assistants. Patently these immediate effects of the examination will not necessarily in themselves raise the standards of hospital care.

While admittedly many graduates of foreign medical schools are unfit to serve as interns or residents in our hospitals in this country, our own experience suggests that many men now serving with credit both to themselves and their countries will be dismissed and consequently deported in January, 1961, for having failed the examination this October. The full effect of hundreds of disgruntled young physicians returning to their homelands after distasteful experiences in United States hospitals may not be negligible and the number of foreign graduates who attempt to obtain positions here may well decline. This situation assumes paradoxical global

proportions in view of the great need for house officers here and the superabundance of medical graduates in foreign countries.

On the other hand, the net effect of the examination should be a healthy one. It is hoped that foreign universities will respond to the examination as a challenge to raise their standards of medical teaching. Improvements in the use of written and spoken English by many foreign graduates can be anticipated. Most important, United States hospitals must now look to their own house staff programs as they enter the inevitably increasing competition for obtaining interns and residents.

This brings us to the main point: a critical look at our own present methods of recruiting house staffs. What is it that attracts the medical graduate of our own schools into the post-graduate situation which he ultimately chooses? He knows that he is now in great demand. He will be "rushed" by hospitals as he has before by fraternities. In many instances he will be able to choose among several fawning services. What then are his criteria for selection of internship or residency?

His primary guide remains of course the educational quality of the internship and residency in itself. A good teaching program acquires a good reputation whether it be a medical center, a university hospital or a private or community hospital. Unfortunately, many hospitals with excellent teaching programs are understaffed. The results is hospital recruiting which offers inducements other than educational ones. As a consequence in choosing internship or residency positions, young physicians have established criteria other than those relative to learning and clinical experience.

One such secondary guide worthy of serious note is financial security. Here, government institutions including the Armed Forces, United States Public Health Service, Veterans Administration and various State institutions offer attractive intern and residency programs with high starting salaries, cheap insurance, retirement and other fringe benefits. These inducements appeal particularly to married students in financial need; in some instances such programs actually benefit students before graduation from medical school. We have recently had two competent house officers who after successfully entering practice chose employment in government service ostensibly for reasons of future security.

Another secondary criterion by which the young physician must deal with hospitals and their inducements relates not to education or security but to the immediate peripheral benefits of the programs: the gravy train, the hand-out, the *carpe diem* for the intern. Such seduction is simultaneously condemned and practiced by hospitals and their hirelings in

the business of acquiring house officers. The chronically acceptable practice of befriending students and presenting favorable facts of a hospital program becomes antiquated. Present recruiting procedures may now offer pyramidal salary boosts, country club membership, free tickets to festival football games, payola air travel to and from promotional get-togethers, more time off than time on, picnics, parties and balls of varying intensities and even a modicum of chauvinistic dealing on the part of department heads, administrators and physicians. Such promotional gimmicks are basically subsidization devices which appeal to anything but the best in young physicians.

In other states thoughtful measures are being taken to deal with the problem of house officer recruitment in an attempt to reconcile hospital demand to house officer supply. The most intriguing of these is the Temple University plan. It has become increasingly apparent that as medical center teaching evolves the intern in the university hospital tends to be squeezed between the rising competence of the senior student and the new-won authority of the junior resident. The Temple plan, as we understand it, makes fourth-year students full-fledged clerk-externs, releases interns to surrounding community hospitals and allows subsequent resumption of residency training. In the Michigan plan, university and non-university hospitals co-operate to share residency training needs for each other at various levels. In Jacksonville, hospitals have founded an educational program corporation which is intended to co-ordinate clinical material and organize a balanced program for the member hospitals. Here in Virginia with only 18 per cent of 150 approved non-university internships presently filled by the Matching plan, hospitals now faced with drastic curtailment of foreign house officers must take collective consideration of their plight. It is encouraging that efforts in this direction are already under way.

Clearly the standards of medical teaching are constantly improving both at pre- and post-graduate levels. However, the present mechanisms for resolving the dilemmas of supply and demand in the post-graduate phase are not necessarily those which assure improvement of the standard of medical care.

Thomas N. P. Johns, M.D.

Problems Arising in the Medico-Legal Investigation of Deaths

ROBERT A. MORTON, M.D.
Norfolk, Virginia

It is well that all physicians understand precisely what the law requires of them in reporting deaths to the medical examiner. They should also know the medical examiner's duties and limitations in accepting cases and ordering autopsies.

SINCE THE ESTABLISHMENT of the Medical Examiner system in Virginia in 1946 it has become increasingly apparent that this is a successful, highly efficient means of medico-legal inquiry into certain types of deaths. The medical profession as well as law enforcement agencies, funeral directors and others are generally familiar with the operation of the System. Yet certain problems seem to recur chronically and the purpose of this paper is to explore and explain some of these problems as they relate to the medical profession. Frequently physicians do not realize their own responsibility when one of their patients dies and also may not be fully aware of the legal implications of a death occurring subsequent to an injury. It is apparent that most misunderstandings arise from the failure to understand the law from which the medical examiner derives his authority.

Chapter III, Title 19.1 of the Code of Virginia 1960, clearly outlines which deaths must be reported to medical examiners. These include the death of any person from violence, or suddenly when in apparent health, or when unattended by a physician, or in any suspicious, unusual or unnatural manner. The medical examiner is also to be notified in the case of a stillbirth occurring without medical attendance or a death occurring in a prison. The law also states that the notification is to be made by the *physician in attendance,* by any law enforcement officer, undertaker or *any other person* who has knowledge of such death. It is a medical examiner's duty to take charge of the dead body and make such inquiries and investigation as he deems neecssary to render an opinion as to the cause and manner of the death. He is empowered to order an autopsy only if the death is properly a medical examiner case and only if the establishment of the actual cause of death can be considered in the public interest. The legal interpretation of public interest does not include the satisfaction of academic curiosity or the establishment of accurate statistics. It does include the protection of the public health, detection of crime, identification of deceased bodies, differentiation between natural and violent deaths should such a controversy exist, settling questions of occupational hazards for the purpose of industrial compensation and the determination of the extent of injuries and recovery of weapons and missiles to aid in the prosecution of crime.

One of the most frequent problems relating to the medical profession is the failure to report deaths of individuals which actually represent violent or unnatural deaths in the eyes of the law, yet from a strictly medical standpoint may on the surface seem to be the result of natural processes. Generally the cases fall into one of two types of deaths. The first is a death that results from

aggravation by an injury of a pre-existing illness and the other, a death occurring at a time remote from the injury. Any death following an injury should be reported to a medical examiner. The medical examiner and physician must decide how much the injury actually contributed to the death. In general, if the injury *in any way* was a substantial contributing factor in the death, then under the law it is considered an unnatural or violent death even though the injury only aggravated the natural illness. From a legal standpoint, if the injury sets up a chain of events which leads to death regardless of the prior state of health of the individual or regardless of the time interval between injury and death, then the death is properly said to be due to that injury.

Case 1. In a recent case argued in a local court, an elderly male, who had suffered many years from bronchial asthma and had developed advanced emphysema and evidence of chronic respiratory failure, was struck by an automobile. The trauma resulted in two fractured ribs. The patient was hospitalized and approximately one week later succumbed to pneumonia. In court an argument developed around the fact that the patient could have been expected to develop pneumonia and die as a result of his pre-existing chronic pulmonary disease. Though this is true, the Judge upheld the opinion of the medical examiner that the rib fracture was a contributing factor to the pneumonia; therefore, this death was properly considered to be a violent death and should be categorized as due to a motor vehicle accident.

Recently two cases came under investigation in which the attending physicians had certified the cause of death because they felt it was due to natural causes, yet in both instances an injury had occurred which could be said to have led to the death. The certificates in these two cases were interpreted by the State Bureau of Vital Statistics to be improper death certificates since they had not been signed by a medical examiner.

Case 2. A 63 year old female had been confined to a nursing home because of advanced cerebral arteriosclerosis with marked mental changes. During the night of January 28, 1960, she fell out of bed suffering an injury to the right hip. The following morning she was seen by her attending physician at the nursing home who felt that she had suffered a fracture of the hip and transferred her to a local hospital. X-ray studies confirmed the fracture and on January 31 she had a hip-nailing procedure performed. At the time of admission she was in a confused state but this was a chronic condition and the fact that she remained confused post-operatively was attributed to her cerebral arteriosclerosis. On the third post-operative day she was noted to be semi-comatose and this condition progressed to complete coma. The attending physician and a consultant both felt that she had suffered cerebral thrombosis of an extensive nature related to a hypotensive episode during surgery but due to her extensive cerebral arteriosclerosis. She expired on the fifth post-operative day and the attending physician certified the cause of death as cerebral thrombosis due to cerebral arteriosclerosis. Mention was made on the death certificate that she had suffered a fractured hip due to a fall. When the death certificate arrived at the Bureau of Vital Statistics, the case was referred to the local medical examiner's office for investigation as a violent death.

Case 3. Another case, similar in nature, was that of an 89 year old female who during the night of February 21, 1960, fell at home. She was able to drag herself to a telephone and called her physician who admitted her to a local hospital on the morning of February 22nd. X-ray studies showed an intertrochanteric fracture of the right femur. This patient had a past history of arteriosclerotic heart disease and had been under treatment for approximately 15 years. At 11:00 a.m. on February 23rd she was taken to the operating room and had a hip-nailing procedure performed. Shortly after leaving the operating room, it was noted that she had extreme tachycardia and hypoten-

sion. An electrocardiogram was suggestive of acute myocardial infarction. She remained in a critical condition despite treatment and died at 1:50 p.m. on the day of operation. Her attending physician reasoned that the cause of death was an episode of acute coronary insufficiency due to arteriosclerotic heart disease which had been present for 15 years. Therefore he certified the cause of death but he mentioned on the death certificate that the patient had suffered a fall and fractured her hip. Again the death certificate was held up and returned to the local medical examiner's office for further investigation.

In both the above cases the attending physicians reasoned that death was due to a progression of a natural illness. However, both made mention of a fall producing an injury and in reviewing the cases with them, both agreed that the fracture and subsequent surgery initiated a chain of events culminating in death. Therefore, both deaths represented unnatural or violent deaths and should have been reported to a medical examiner. Both cases represent hip fractures in elderly individuals and it is frquently argued that these fractures can be due to osteoporosis and actually occur prior to an individual falling. It is generally accepted that this situation does occur and a fall may be the result of rather than the cause of the fracture. Should a physician have demonstrative evidence or proof that osteoporosis is present and in his opinion the fracture is due to osteoporosis and precedes a fall or traumatic episode, then he is well within his right to certify the cause of death as due to natural causes and list on the death certificate that the fracture is due to osteoporosis and is not traumatic. Such a case then would not be an unnatural death and would not properly be a medical examiner case. However, if there is doubt in his mind or if he feels that the fall precipitated the fracture and death subsequently occurs, such a case should be reported. A fracture is considered to be of traumatic origin unless it is due to some disease or disorder of the bone itself. Obviously, if this disease or disorder is not diagnosed and so stated on the death certificate then the physician has been remiss in his duties and the reviewing authorities would not have sufficient information to properly categorize the death.

Death at a time remote from the injury but still due to that injury is the other major type of unreported case. The time interval is of no significance if it can be said that the injury initiated a chain of events leading to death. Thus, if an individual is injured in an automobile accident and due to that injury becomes paraplegic, lives twenty years and then dies as a result of a urinary tract infection as a complication of his paralysis, it is still an accidental death and must be reported to a medical examiner for investigation and certification. It is not unusual for people to survive relatively long periods of time with injuries to their nervous system and yet die as a result of that injury.

Case 4. Another case recently reported to the local medical examiner's office from the Bureau of Vital Statistics involved a 32 year old male who was injured on the afternoon of May 8, 1959, when he was struck in the back by a log while he was at work engaged in logging operations. He suffered an immediate onset of paralysis of both lower extremities and was brought to a local hospital for further treatment. Studies at the hospital showed a fracture-dislocation of the spine at the level of T-12 and L-1 vertebra. He was operated on immediately after admission for a decompression of the spine; however, he showed no improvement in the paraplegia. He remained in the hospital for approximately eight weeks and was then taken to the operating room to have a spinal fusion performed. Shortly after being given a general anesthetic but before the actual start of the operation, the patient suffered a cardiac arrest. He underwent a manual cardiac massage with resumption of spontaneous heart activity and was returned to his room. He remained in a critical condition and expired about eight hours after the initial cardiac arrest. Here the attending physician felt

that the cause of death was cardiac arrest due to a general anesthetic and he certified the cause of death as such. However, he also mentioned on the death certificate that the patient had suffered a fracture of the spine due to an accidental injury. The certificate was returned for investigation by a medical examiner.

Upon investigation of this case, the attending physician felt that the time interval between the injury and subsequent death was sufficiently great to rule out the injury as being the primary factor in his death. From a strictly medical standpoint his death was unquestionably a result of cardiac arrest due to general anesthesia but from a legal standpoint the initial injury was what necessitated the general anesthesia, therefore, his death should have been classified as a violent death and a medical examiner notified at the time of the death. But, if the anesthesia had been necessitated by a natural illness (e.g. appendicitis) and the same result occurred, it would have been a natural death and the attending physician would have been correct in certifying the cause of death.

It becomes apparent that to properly report cases, physicians must keep *all* the facts in mind regarding a death. If violence or unnatural causes are present either as aggravating or precipitating factors the case must be reported to a medical examiner for investigation and only he can certify the cause of death. If a death which should be a medical examiner case goes unreported, then obviously the law has been violated. The responsibility for failure to report a case cannot legally be shifted to hospital personnel, undertakers, etc., as the law requires all persons having knowledge of the death to report it to the medical examiner of the city or county where the death occurred (NOT where the injury occurred). Should it later come to the attention of the medical examiner that a death has occurred and the body buried without proper inquiry, then he is obligated to notify the Commonwealth's attorney of such death, investigate the case as best he can and report his findings. The Commonwealth's attorney then, by law, must present the case to the Judge of the Corporation or Circuit Court for whatever action the judge deems proper. This may include the exhumation and autopsy of the decedent which would greatly increase the cost to the State and render the investigation much more difficult. To date, no physician in Virginia has been prosecuted for failure to notify a medical examiner of a medical examiner case. However, the law is clear and such action could be taken by a Commonwealth's attorney and no doubt would be if he felt that there was any intent to circumvent the law.

Another major problem facing medical examiners in dealing with the medical profession is that of being requested to authorize autopsies. Again, failure to understand the legal standpoint seems to cause the most friction in this matter. Is it not just as unreasonable to request a medical examiner to authorize an autopsy when he has no legal right to do so as it is to request a pathologist to perform an autopsy without permission of the next of kin? A medical examiner as an individual is just as responsible legally for his actions as anyone else. Two criteria must be satisfied before a medical examiner can legally and properly authorize an autopsy. First, the case must be under his jurisdiction and, second, the autopsy must be in the public interest.

It must be kept in mind that the State, through its medical examiners, is interested primarily in the manner of death rather than the exact medical cause. The manner of death here means that the death should be categorized as natural, accident, homicide or suicide. The exact cause from a legal standpoint, is of secondary importance. Thus, if an individual under attendance by a physician for an illness which could reasonably be expected to cause death, should die and there are no circumstances to suggest that the death is other than natural, the case is not necessarily reportable and if reported will be refused by the medical examiner. Frequently the attending physician feels that

if he professes ignorance of the cause of death, then the medical examiner will of necessity order an autopsy to determine the cause of death. This is fallacious reasoning. If a death clearly falls into one of the categories mentioned above, an autopsy would be considered superfluous from a legal standpoint, therefore, would not be in the public interest. However, should a controversy exist as to the manner of death (not the exact cause) then in all likelihood the medical examiner will order an autopsy.

Case 5. A 56 year old male was injured in an automobile accident on January 14, 1960, and admitted to a local hospital. Studies showed the presence of rib fractures on the left with a partial left pneumothorax. The patient also had a history suggestive of arteriosclerotic heart disease with an anginal syndrome. He seemed to respond well to initial treatment and his lung re-expanded with the use of a chest tube. However, he continued to complain of pain in his left chest and his electrocardiogram showed evidence of myocardial ischemia. His blood pressure fell to slightly hypotensive levels where it remained until about 7:00 p.m. January 17, when he suddenly went into shock and became comatose. In spite of emergency treatment, he died in approximately one hour. Here confusion existed as to whether the patient had suffered a myocardial infarction and succumbed or whether he had died from some unforeseen complication of his injury or from some unrecognized injury. A medical examiner authorized an autopsy on the basis that the manner of death was not clear. The autopsy disclosed an unrecognized rupture of the spleen and an essentially normal heart. Thus, the death was properly categorized as an accidental death.

It must be remembered that the surviving relatives of a deceased individual have certain rights in regards to the remains of the individual. They have the right to receive and bury those remains without undue interference. The medical examiner must respect those rights as well as anyone else. It is only in a situation where the interests of the State transcend the interests of the individual that a medical examiner can assert his authority and order an autopsy. On the other hand, medical examiners receive requests that autopsies be performed because the surviving relatives want it done. Here again, unless it is properly a medical examiner case, the medical examiner cannot legally enter into any such arrangement. In like manner, even if it were a medical examiner case that the surviving relatives wanted autopsied, unless the medical examiner felt that the public interest would be served by an autopsy, he would not be within his power to authorize the expenditure of State funds or the use of State facilities for such an autopsy. As a matter of information, most pathologists will agree to perform autopsies even on individuals who die outside their particular hospitals should they receive proper authorization from the family. Under these circumstances, the pathologist is entitled to a fee for his services since he is performing a service requested by the family. Even in clear cut medical examiner cases where the medical examiner does not authorize an autopsy, once he releases the body from his jurisdiction, then it may be autopsied if proper consent is obtained by the attending physician or pathologist. In this respect, attending physicians and house staffs of hospitals are encouraged to obtain permission for autopsy even in a medical examiner case. However, this must never be done until the medical examiner has made his investigation and released the body without ordering an autopsy. Where the family is approached prior to the medical examiner's investigation and decision and the family refuses permission, there may arise a suspicion in the family's mind that subsequent ordering of an autopsy by the medical examiner was done to circumvent their refusal.

As a matter of interest, there are a number of successful suits on the records against medical examiners or coroners for ordering autopsies where they had no clear legal right to do so. Most of these suits have occurred

in other states under a coroner system where the coroner can authorize autopsy only on the basis that a crime is suspected. However, the Virginia law uses "public interest" as a basis for authorizing autopsy rather than a mere suspicion of crime. To date, no successful suit has been entered against a Virginia medical examiner and this primarily is because the medical examiners have been well indoctrinated into what exactly constitutes their rights and duties.

Another major source of friction between the medical profession and medical examiners is the failure of physicians to understand that the physician last in attendance must certify the cause of death except in medical examiner cases (Chapter 32, paragraph 353.20, Code of Virginia 1960). Thus, if a medical examiner rules "not a medical examiner case" the undertaker must present the death certificate to the physician last in attendance for his certification and signature. The physician cannot shift this responsibility simply by pleading ignorance of the exact cause of death. The law does not require that the certification be accurate beyond all doubt, but does expect a physician to arrive at the probable and most reasonable cause of death based on his knowledge of the patient, the patient's illness and his store of general medical information. A medical examiner is not within his right to accept a case because the attending physician does not wish to sign a death certificate. The case must properly be a medical examiner case and then only a medical examiner can sign a valid certificate. Physicians who pursue a course of obstinate refusal to sign a death certificate on one of their own patients are obstructing the usual orderly process of funeral and burial, creating difficulties for undertakers and the surviving members of the family and are breaking the law. The Bureau of Vital Statistics can issue a complaint against the offending physician resulting in his criminal prosecution.

In summary, the major problems that the medical examiner system encounters with the medical profession are those of failure to report cases legally considered unnatural deaths but, which medically appear to be an aggravation of pre-existing illnesses; failure to report cases in which death occurs at a time remote from an injury and attempts to have a medical examiner authorize autopsies in order to establish an exact cause of death. If the physician will report all cases in which death occurs subsequent to an injury the first two of these problems will be eliminated. If he will make some attempt to understand the legal basis and implications of ordering autopsies, he will well understand why a medical examiner will not authorize autopsies in cases where no controversy exists as to the manner of death. If he will understand that the law requires the last physician in attendance to certify the cause of death in the case of a natural illness and that this requirement cannot be shifted to a medical examiner by pleading ignorance of the exact cause of death, much friction will be removed. He should also understand that should a death be properly a medical examiner case, then only a medical examiner can sign the death certificate, and it is only this certificate which has any validity in a wide variety of legal implications.

Bibliography

Code of Virginia 1960, Chapter III, Title 19.1 and Chapter 32, paragraph 353.20.

Regulations of the Board of Health, Commonwealth of Virginia, Bureau of Vital Statistics, Richmond, Virginia, July 1, 1960.

Medical Examiner's Handbook, Department of Health, Office of Chief Medical Examiner, Richmond, Virginia, 1954.

915 Hampton Boulevard
Norfolk, Virginia

Acceleration Therapy of Recurrent Depressions

EDWIN DUNLOP, M.D.
Attleboro, Massachusetts

Toxicity has not occurred when utilizing two antidepressant agents. However, close control of the medication is the safest factor in preventing undesirable side effects.

FOR MORE THAN TWO YEARS psychiatrists have been fortunate in having at their disposal a number of excellent and well proven antidepressant agents. The first was Marsilid in 1957, then Catron in 1958. During 1959, Nardil, Marplan, Niamid, and Tofranil made their appearance on the scene. By now, many hundreds of thousands of cases have been reported showing substantial benefits following the use of these antidepressant agents. Although they have most assuredly assumed a major role in the treatment of the depressed patient, earlier enthusiasm for these drugs must be looked upon with some reserve as they have not and probably will not in the immediate future, at least, replace electroshock therapy, the "Prima Donna" of all psychiatric therapies for the depressed patient.

Many of the enthusiastic reports have included the excellent response to antidepressants in patients who have previously failed to improve following electroshock therapy. Many of us have long recognized a certain number of these "hard core" patients who resisted electroshock therapy and have proven disappointing until antidepressant agents provided the key to recovery.

DUNLOP, EDWIN, M.D., *Assistant Medical Director, Fuller Memorial Hospital.*

The nature of depressed reactions in many cases tends to be a recurring one and we have been faced with the return of patients who are suffering a recurrence of their depression which had been successfully treated by an antidepressant agent a year or two before. By the time the patient returns again he has invariably resorted to the antidepressant of choice which had previously been prescribed with such success. He has given it a fair trial, being fully aware that the drug does not work immediately and that a lag period of two to three weeks is often required before therapeutic benefits are seen. When this unimproved patient comes to the office, one is sometimes at a loss as to what course of treatment to follow next.

Invariably the patient feels that electroshock is still a major procedure and he will usually protest against its use. Having seen the disappointing results that follow when one simply prescribes the same antidepressant in the same amount as was used formerly, then failing to show substantial improvement, we decided to include in the treatment an additional "psychic energizer" to, perhaps, facilitate the recovery of the patient.

A number of patients with a history of cyclic or periodically recurring depressions have been satisfactorily controlled by the combined use of two antidepressant agents. To obtain such control usually takes from 4 to 21 days. Following this, most of these individuals remained healthy with a daily maintenance dose of 5 to 10 mg. of Nardil per day. In both groups the rate of recurrence was decreased significantly. The two patients described below are representative of a group of about 20 such cases.

Case #1, G. L. Diagnosis: Recurrent Depression: This patient had failed to recover after a series of 28 electroshock treat-

ments in the winter of 1958. Later Nardil, 15 mg. t.i.d. produced a dramatic improvement in about one month and the patient enjoyed her best health in years. Her depression, however, recurred late in 1959 but Nardil, given as before, was not effective. Catron 6 mgm b.i.d. for five days was then prescribed to supplement the Nardil. Within five days the patient showed considerable improvement. Therapy continued at the level of 6 mg. Catron daily and Nardil, 15 mg. t.i.d. Within three weeks very substantial improvement resulted. Patient is now being satisfactorily maintained on Nardil alone, 5 mg. b.i.d.

Case #2, B. C. This patient had a recurrent psychotic depressed reaction which was successfully treated four years ago with electroshock therapy. "Her condition recurred severely in 1959 and the patient refused to be hospitalized and refused to submit to electroshock." She was given Nardil six weeks; there was still room for further improvement. Catron, 6 mg. b.i.d., was added to this patient's medication and within a week, noticeable improvement had materialized. She remained on this therapy for an additional two weeks and is now being maintained in excellent condition on Nardil 5 mg. b.i.d.

Name	Age	Diagnosis	Prev. Treatment	Synergistic Agent	Onset of Improvement Noted	Result	Maint. Schedule
G.L.	43	PPDR	t.i.d. Nardil 15 mgm.	Catron 6 mg. t.i.d.	4 days	Excell.	Nardil 5 mg. daily
M.W.	74	IDR	t.i.d. Niamid 25 mgm.	Catron 6 mg. b.i.d.	14 days	Excell.	Niamid Catron
D.H.	48	DR	t.i.d. Tofranil 15 mg.	Catron 6 mg. b.i.d.	8 days	Excell.	Catron 1 daily
E.D.	72	IDR	t.i.d. Tofranil 15 mg.	Catron 6 mg. daily	14 days	Excell.	Tofranil 15 mg. daily
D.R.	56	DR	d.i.d. Marplan 10 mg.	Catron 6 mg. b.i.d.	7 days	Excell.	10 mg. daily Marplan
R.G.	32	PPDR	t.i.d. Nardil 15 mg.	Catron 6 mg. b.i.d.	4 days	Good	Catron 6 mg. Nardil 5 mg.
H.S.	45	RD	q.i.d. Niamid 25 mgm.	Catron 6 mg. b.i.d.	5 days	Good	None
L.C.	68	IPDR	t.i.d. Nardil 15 mgm.	Catron 6 mg. b.i.d.	12–14 days	Excell.	Catron 6 mg. Nardil 5 mg.
H.F.	40	RD	t.i.d. Nardil 15 mgm.	Catron 6 mgm. b.i.d.	7 days	Good	Catron 6 mgm. Nardil 15 mgm.
O.G.	50	RD	t.i.d. Nardil 15 mgm.	b.i.d. Catron 6 mgm.	10 days	Excell.	None
L.C.	60	IDR	Marplan 10 mgm. t.i.d.	Catron 6 mg. daily	14 days	Excell.	Marplan 10 mg. b.i.d.
S.K.	38	RD	Niamid 25 mgm. q.i.d.	Catron 6 mg. b.i.d.	12 days	Good	Niamid b.i.d. Catron 6 mgm.
N.B.	26	RD	Niamid 25 mgm. q.i.d.	Catron 6 mgm. t.i.d.	5 days	Excell.	Catron 6 mgm.
J.A.	66	IPDR	Marplan 10 mg. t.i.d.	Catron 6 mgm. b.i.d.	14 days	Good	Marplan 10 mg. b.i.d.

SCALE:
PPDR—Postpartum depressed reaction
IDR—Involutional depressed reaction
DR—Depressed reaction
RD—Reactive depression
IPDR—Involutional psychotic depressed reaction

Summary

From our experience in treating many hundreds of patients with various techniques, it is obvious that we will continue to see recurrence of the former depressive state. Not always does simple restitution of previous treatment prove as effective as it did in the first instance. It often only discourages the patient from continuing on the same therapy if noticeable improvement is not obtained; therefore a more encompassing program should be considered.

Our experience has been contrary to that of Ayd.[1] At first we were concerned that by utilizing two antidepressant agents, toxicity might be produced whereas none had appeared when the agents were used singly. This toxicity has not occurred and we recognize that close control of the medication is the safest factor in preventing undesirable side effects.

BIBLIOGRAPHY

Ayd, F. J., Jr.: Antidepressants, 1959. Psychosomatics 1: 1960.

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Millions Spent for Cold Remedies

Cold remedies relieve Americans of millions of dollars each year but they do not cure or prevent colds, according to a publication of the American Medical Association.

"No cold remedy can do anything more than provide temporary relief of certain cold symptoms," an article in the January Today's Health said.

"Many do not even relieve symptoms effectively. Hence, they do little more than subtract from your pocketbook and add to the feeling that you've done something."

There is no known drug which will cure a cold, one reason being that not all the viruses which cause the ailment have been found, the article said. Another reason is that no one has discovered an antibiotic that kills viruses as they do bacteria.

"In the best scientific opinion today, a cold is a nose and throat infection that lasts about a week and is caused by an unknown number of viruses. To date, at least six of these viruses have been isolated." When all the viruses have been found it may be possible to produce a preventive cold vaccine.

"The cold remedy racket owes much of its success to the fact that the cold is a self-limiting disease." In other words, the symptoms will disappear naturally in a matter of days whether medicine is taken or not.

Nevertheless, Americans spent $309,350,000 for package cold and cough medicine off the drugstore shelf in 1959, according to one estimate.

The article offered the following advice on what to do when you catch cold:

—Stay at home and take other precautions to prevent spreading the virus to others.

—Go to bed and rest, keep covered, and avoid drafts.

—Eat an adequate, well-rounded diet and drink plenty of fluids.

—Blow your nose gently when necessary.

—Use steam from a kettle or vaporizer to relieve nasal congestion.

—If your cold persists for more than a week, if you have more than one degree of fever for more than a day, or if you get more than three or four colds a year, see your physician.

The article was written by Theodore Berland.

Diabetes Mellitus

Re-Examination of the Diagnostic Symptoms, Signs and Tests

ALFRED L. WOLFE, M.D.
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It is well to review the diagnostic tests, symptoms and signs of this widespread and most insidious disease.

IN THE PAST SEVERAL YEARS basic science research and clinical observations have determined the cause of certain metabolic and endocrine ailments heretofore listed as "diseases of unknown etiology". Further it has stressed the existence of endocrine and metabolic diseases in prodromal and mild states; thus pointing out the fallacy of depending on the "typical text book picture" before making a diagnosis. Not the least of the metabolic diseases is diabetes mellitus. It has been estimated that there are approximately 2,900,000 diabetics in the United States and about 1,400,000 are as yet undiagnosed. The latter are made up of persons never examined and patients missed by physicians. The enormity of the diabetic problem however is easily verified in any physician's office or any hospital clinic. The problem of diagnosing these diabetics when they present with the typical complaints of polyphagia, polyuria, polydipsia, weakness and weight loss in association with sugar in the urine is not the difficulty confronting the physician. It is the atypical diabetic, with few or none of the usual signs and symptoms, that presents the diagnostic challenge. Only when the clinician develops a "High Index of Suspicion" and makes use of the available clinical information and laboratory tests, will he "pick up" these difficult to diagnose diabetics. It is the aim of this paper, therefore, to attempt to stimulate somewhat this index of suspicion and to review the more recent clinical observations and the laboratory tests pertinent to the diagnosis of diabetes mellitus.

As stated by Dr. Best,[1] whatever the basic defect of diabetes, the result is in general metabolic dysfunction affecting protein, fat and minerals as well as carbohydrate metabolism. For diagnostic test purposes the glucose intolerance is most important, although the clinical features may be due to the other dysfunctions. The former is due either to a complete lack of secretion of insulin by the pancreatic islet cells, which gives rise to the unstable or juvenile type of diabetes; or due to a relative lack of insulin (when there is usually 50% or more of the normal amount of insulin existent in the pancreas and blood), resulting in the stable or adult type of diabetes. A third type of diabetic which is being described more and more in literature is known variously as the prodromal, sub-threshold or pre-diabetic. The pre-diabetic is as the terminology suggests, a diabetic who has not as yet manifested overt diabetes, but who generally will show a glucose intolerance if stress factors are applied. For diagnostic purposes a term "Dif-Diabetic" has been coined as an abbreviation of the "difficult to diagnose diabetic". This group, as will be seen, is not entirely confined to the pre-diabetic or mild type but includes even rather severe glucose intolerants.

Review of Laboratory Tests

The *routine urinalysis* is the most widely used test for mass surveys and office screening of the population for diabetes. There are

available several methods for testing for urine sugar, all apparently equally sensitive for diagnostic purposes[2,3] (Benedict's solution, Clinitest, Tes-Tape, Clinistix and other glucose-exodizing papers). However the urine test is the least valuable procedure even when done at the recommended time of two to three hours after meals, because it is only significant if positive. A patient may have a high renal threshold or have a mild diabetes which is in balance at the time of testing and therefore present a negative urinalysis. The case of a 68-year-old white male points out the former of these two problems very vividly. This patient developed symptoms of cholecystitis with lithiasis in 1958, which was proven by x-ray. He refused surgery and in the course of the next twelve months went downhill with the complaints of weakness, weight loss, peripheral neuropathy and cardio-vascular symptoms and signs. Urinalysis done on repeated occasions were all negative for sugar and the patient was finally admitted to the hospital in 1959 for surgery with the diagnosis of probable biliary or pancreatic carcinoma to account for the downhill course. On admission to the hospital the routine blood sugar was 230 mgm.% and the urine still failed to show sugar. Surgery revealed cholecystitis with lithiasis and it was apparent that his downhill course was due to the undiagnosed diabetes.

The *routine blood sugar* should be done as readily as we do the routine hematocrit, urea, etc. The value of this latter is exemplified in the case of a 60-year-white male, a known Hodgkins disease, who was admitted for retreatment because of weight loss, weakness, scattered shoddy lymph nodes and a solitary rib lesion. A routine fasting blood sugar was 131 mgm.% and a subsequent glucose tolerance test revealed that at least part of his disability at this time was due to diabetes. (see Fig. 1). On the other hand the routine fasting blood sugar has its limitations, because the mild to moderate glucose intolerant may manifest a normal fasting blood sugar. An example of this is the Case of S. D., who was admitted to the City Hospital in Binghampton, N. Y., in 1949 with an osteomyelitis of the distal phalanx of the

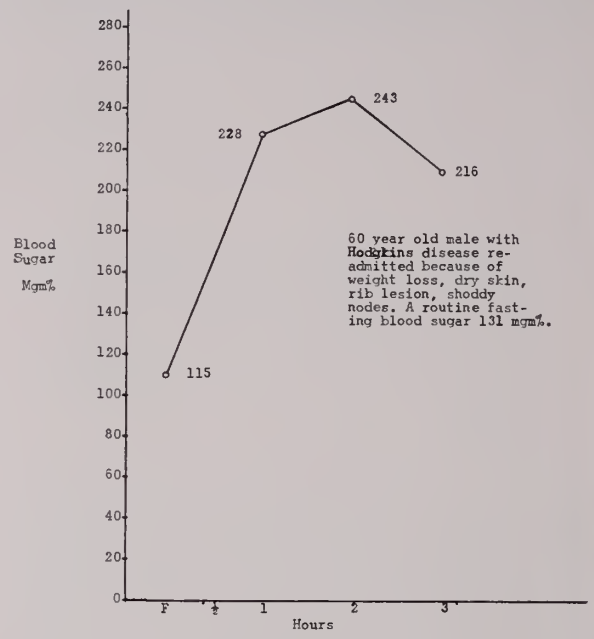

Fig. 1

right thumb. This patient had a history of having had a trace of urine sugar at one time. His fasting blood sugar was normal but it was decided to do a glucose tolerance test because of the history of the urine sugar. As one can see in Fig. 2, the fasting sugar was

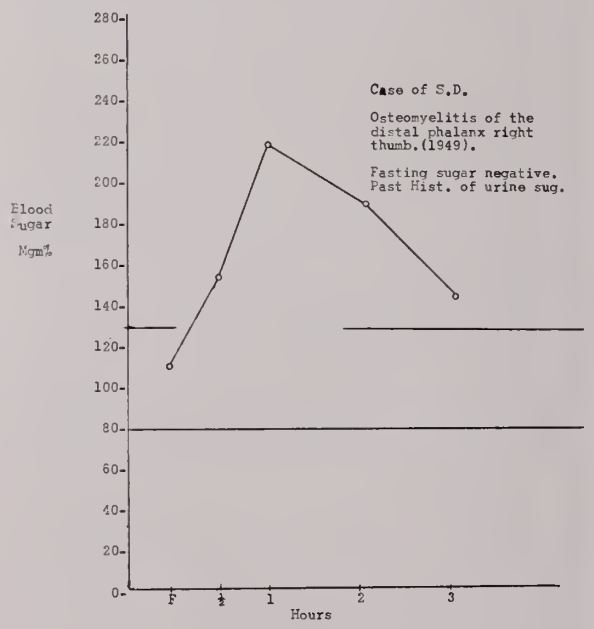

Fig. 2

again normal, but the curve is definitely indicative of diabetes. Another point to re-

member is that a positive urine sugar followed by a normal blood sugar, even if collected at the same time, does not mean "no diabetes". The bladder may contain sugar from a previous renal spill when the blood sugar was elevated. A much better routine screening test is the two hour post-prandial blood sugar. However one should be careful that the patient does receive an adequate amount of carbohydrate with the meal, even if he has to supplement with 50 to 100 grams of oral glucose. Otherwise the patient may not eat enough to give a test much better than the fasting blood sugar. By supplementing the meal with additional glucose one is actually doing a modified glucose tolerance test. Allen, et al[4] have devised a modified screening test by giving the patient two bars of coconut penuche fudge containing approximately 100 grams of sucrose. They state that there has been better patient acceptance and less nausea as is experienced with the oral intake of 100 grams of glucose.

An interesting screening test for blood sugar is the Dextro-test Kit manufactured by the Ames Company. My experience with about 170 tests done on office patients has been that it is a good economical means of following the control of the diabetic, but as a screening diagnostic test for diabetes it gives a high percentage of false positives. This latter is due principally to the difficulty in grading the test between 100 mgm.% and 150 mgm.% blood sugar.

A few words about the methods for determining blood sugar in the laboratory. It is my understanding that most laboratories use the Folin-Wu technique, but some use the "true sugar" Somogyi method. In the Folin-Wu determination certain reducing substances other than glucose are measured, so that the actual reading is 20 to 30 mgm.% higher than the true blood sugar level. The Somogyi method removes these other reducing substances and therefore the final blood sugar readings will be lower than with the former method. Thus the normal blood sugar ranges from 65 to 110 mgm.% Somogyi and 80-120 mgm.% Folin-Wu. Therefore in evaluating the blood sugar found, whether fasting or post-prandial, if your laboratory uses the Folin-Wu method then any reading 130 mgm.% or above is suspicious to diagnostic depending on the level, and in the case of the Somogyi method a blood sugar 120 mgm.% or above has the same significance.

The *Standard Glucose Tolerance Test* is indicated if the patient fails to reveal definite sugar intolerance by the fasting or two hour post-prandial blood sugar. It has been a standard procedure to prepare the patient with at least 300 grams of carbohydrate per day in their diet for as much as three days prior to the tolerance test. This is thought to eliminate the possibility of false positives by utilizing the islet cell stimulating effect of glucose to insure maximum insulin output by the pancreas. However some recent work reported by Wilkerson, et al[5] suggests that the necessity for the routine preparation has been exaggerated. They fed pre-test patients diets varying from 50 grams to 300 grams of carbohydrate daily for from three to seven days. They found no false positive diagnosis of diabetes in a group of 57 non-diabetic men and women. On the other hand it has been generally recognized that repeated glucose tolerance tests on the same patient creates an increasing tolerance to glucose. There has been some question as to whether the oral glucose tolerance test or the intravenous test is most accurate. One study indicated that the oral tolerance test gives abnormal curves in 15% more individuals than the estimated prevalence of the disease. However the oral test seems to be practical and diagnostic in the individual patient who has been properly prepared and free of malabsorption dysfunction. Generally 50 to 100 grams of glucose are given by the oral route and 25 to 50 grams intravenously.

Regardless of the route of administration the evaluation of the glucose tolerance curve is the same. It can be divided into three phases. The *initial or fasting glucose level* in the normal, mild or even moderately severe diabetic will usually vary between 70

and 120 mgm.% (Folin-Wu). If it is above 130 mgm.% it is diagnostic in itself of diabetes, providing one rules out advanced nephritis, functional (emotional) hyperglycemia, hyperthyroidism, hyperadrenalism and other endocrine ailments. The *second phase* is the peak of the curve occurring in one-half to one hour. The average normal limit is 180 mgm.%, but it varies with age. In the young most normal peaks are 160 mgm.% or lower and in the aged may reach 190 mgm.% normally. It is during this phase that an abnormally high blood glucose can occur in the patient with hepatic disease or functional hypoglycemia (alimentary hypoglycemia). This latter fact is what makes *phase three* or the descending limb of the curve the most important in the diagnosis of diabetes. For unlike the fall of the blood sugar to normal or abnormally low levels in the hepatic or hypoglycemic syndromes the blood sugar will remain elevated above 130 mgm.% in two hour and three hour specimen. However it may return to normal range in three hours in the mild diabetic. (Fig. 3)

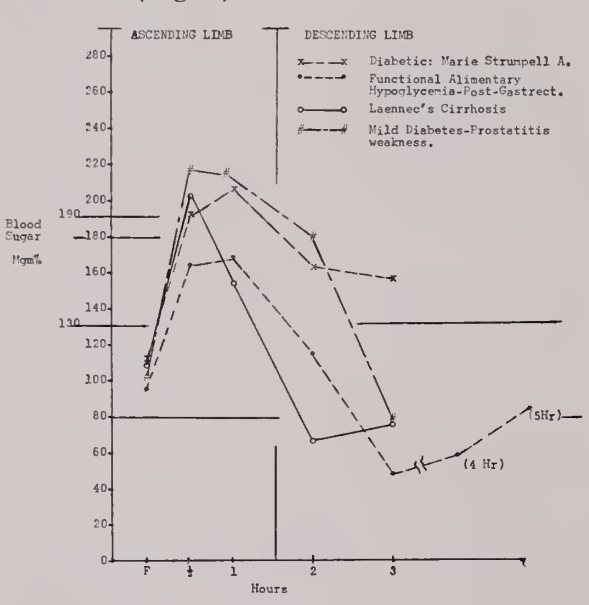

Fig. 3

The *Cortisone-Glucose Tolerance Test*, as devised by Conn and his associates[6] is based on the observations that cortisone reduces insulin sensitivity and thus glucose tolerance. (The probable mechanism for the appearance of diabetes during pregnancy.) They have calculated that giving patients weighing less than 160 pounds 50 mgms. of cortisone acetate eight and a half hours and again two hours prior to a standard glucose tolerance test, will cause an abnormal tolerance curve in patients with diabetes or diabetic tendencies (pre-diabetic), but will not affect patients with normal glucose tolerance. (Patients weighing more than 160 pounds are given 62.5 mgm. of cortisone acetate.) This test is used principally to determine diabetic potentiality, and as will be noted has been extremely important in adding to our knowledge of the pre-diabetic state. The results of this test are interpreted the same as outlined above for the standard tolerance test.

The *Intravenous Tolbutamide (Orinase) Response Test* is thought by some to be the best method of determining the mild diabetic. The patient again is prepared with three days of high carbohydrate intake. A fasting blood sugar is drawn in the morning, then one gram of Orinase diluted in 11 c.c. of distilled water is given intravenously in two minutes time. Blood glucose determinations are then done at 20 and 30 minute intervals. The results indicate that in the diabetic the 20 minute specimen will remain at a level of 84% or more of the fasting specimen, whereas the non-diabetic will show a drop in blood sugar of 80% or more of the fasting level. Further evidence of glucose intolerance is noted when the 30 minute specimen fails to decrease below 77% of the fasting level. (Fig. 4)

This test can be preceded by a stress dose of cortisone, as outlined above, and it too becomes a very sensitive test for study of the pre-diabetic patient.

The *Six-minute Insulin Tolerance Test** measures the patient's sensitivity of resistance to insulin and therefore is useful in separat-

* This test described by Sir Harold P. Himsworth of London and procedured in this country by Dr. George E. Anderson of State University College of Medicine, New York City.

ing the juvenile or unstable from the adult or stable type of diabetic. An interesting finding with the test was that the obese diabetic manifesting insulin resistance became normally sensitive to insulin with weight loss.

The procedure of testing is to determine the fasting blood sugar and then inject three

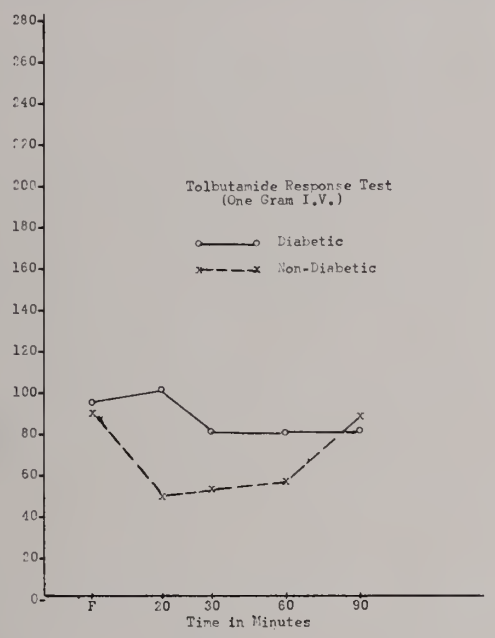

Fig. 4

units of glucogon free insulin intravenously. Blood samples are then examined for glucose level at two, four, and six minute intervals. *Normally* the blood sugar falls from six to 26% of the fasting level within six minutes. There may be an initial rise, but this is followed by a drop. The *insulin-resistant* patient has a flat curve or may even show a slight rise during the six minutes. The *juvenile diabetic or insulin sensitive* patient shows a precipitous fall of blood sugar, usually within two minutes.

Review of the Clinical Observations Pertinent to the Diagnosis of Diabetes Mellitus

As stated previously, if the practicing physician depends on typical clinical symptoms and findings of urine sugar or even hyperglycemia on a single blood specimen he is going to fail to diagnose a great number of mild, moderately severe glucose intolerances and pre-diabetics. An awareness of certain clinical leads and a "High Index of Suspicion" along with the systematic employment of the tests just reviewed are necessary. In the following paragraphs some of these diagnostic clinical features will be discussed.

The *typical, although nonspecific, complaints* are those of loss of strength in about 64%; polyuria 73%; polydipsia 67% and polyphagia in about the same percentage. The latter is pointed out only to indicate that a good number of diabetics will have few if any of these symptoms. On the other hand, it has been noted in the past by diabetologists and re-emphasized by the employment of the cortisone stress tolerance tests, that the above symptoms and other genito-urinary complaints such as burning, urgency and itching, may manifest before the actual onset of hyperglycemia, at least the glucose intolerance may be so mild that it is easily overlooked. An example of this is the case of a 48-year-old white female who was admitted to the Shenandoah Hospital in Roanoke, Virginia, in 1957. Her chief complaints were those of weakness, urinary frequency, burning, itching and vague abdominal pains. The urological work-up indicated urethritis and cystitis. A general medical work-up was indeterminate and such things as hypothyroidism, diabetes, hyperparathyroidism, gastrointestinal disease and others were apparently ruled out. (Among others the laboratory tests showed PBI: 6:1; BMR: plus 5; Cholesterol: 142 mgm.%; blood sugar: 124 mgm.% fasting and all urines negative for sugar.) The patient was treated for probable menopausal syndrome, but her symptoms of weakness and fatigue persisted and although the urinary symptoms had abated, they recurred. She was re-admitted to the hospital in 1959 and a fasting blood sugar was 132 mgm.% (urine negative) and a three hour post-prandial blood sugar was 169 mgm.% This patient may represent a pre-diabetic problem, but probably was a mild diabetic that was missed in 1957.

Family History: The inheritability of diabetes has been a question of much debate and study. More recently it has been generally assumed that it is transmitted by the Mendelian recessive characteristic. The diagnostic importance of a positive family history, especially if on both sides of the family, cannot be stressed too much. It has been pointed out by many, including Fajans[7] and Conn[6] that the standard glucose tolerance test will be abnormal in 18% of the apparently healthy relatives of known diabetics in contrast to 1 or 2% in a control group. If the cortisone stress test is applied, the figure jumps to 25% in the relatives of known diabetics, in contrast to 2-3% of the controls. Further application of these tests to apparently healthy *obese* relatives of known diabetics indicates that the overweight patient in our office with a family history of diabetes, is a *must reduce candidate.* This latter takes into consideration the fact that 80 odd per cent of all diabetics are overweight. One must remember that the onset of diabetes cannot be predicted by date or age, and some member of the family may develope overt diabetes between office examinations. Therefore the question should be repeated of the same patient.

Dermatological Signs: Certain skin conditions should put us on our guard. We are all familiar with the fact that furunculosis and fungous infections of the skin and the latter particularly of the nails are frequent complications of uncontrolled diabetes. This is also true of monilia infections of the mucous membranes of the vagina. In fact, pruritus vulvae is so often associated that it demands the exclusion of diabetes. There are certain skin lesions less frequently encountered such as *Necrobiosis Lipoidica Diabeticorum, Xanthoma Diabeticorum and Xanthelasmia.*

Necrobiosis L. D. causes a reddish papular lesion about 1-3 mm in diameter. It occurs singly or may be multiple, growing slowly and ulcerating. It is a rare lesion with no known cause. *Xanthoma* is the most rare of these lesions, consisting of a yellowish plaque appearing chiefly on the elbows, knees and buttocks, but also other skin areas and buccal mucosa. It is apparently directly or indirectly influenced by the blood cholesterol level because it disappears when diabetes and the latter are controlled. *Xanthelasmia* is a more common finding consisting of a yellow plaque on the eyelid. It is found in diabetics and non-diabetics. Vacca, et al[8] recently reported 51 consecutive patients with this lesion, of which they reported 35 patients who were evaluated for diabetes. Twelve of the 35 or about 35% had diabetes.

Delayed healing of surgical wounds and chronic infections, regardless of the fact that it may be explained on another basis, should also bring up the question of the presence of diabetes. A good example of this is the case of a 61-year-old white female admitted to the hospital with weakness, weight loss, persistent cough productive of purulent sputa and fever, and a vague history of thyroid disease. She had a goitre, emphysema, bronchiectasis and pneumonia in both lower lobes. Sputa examination ruled out tuberculosis, fungous infection and demonstrated pneumococci and streptococci. The RAI and PBI were normal. The blood cholesterol was elevated and a fasting sugar was normal. The glucose tolerance test however indicated diabetes. (Fig. 5) So even though this pa-

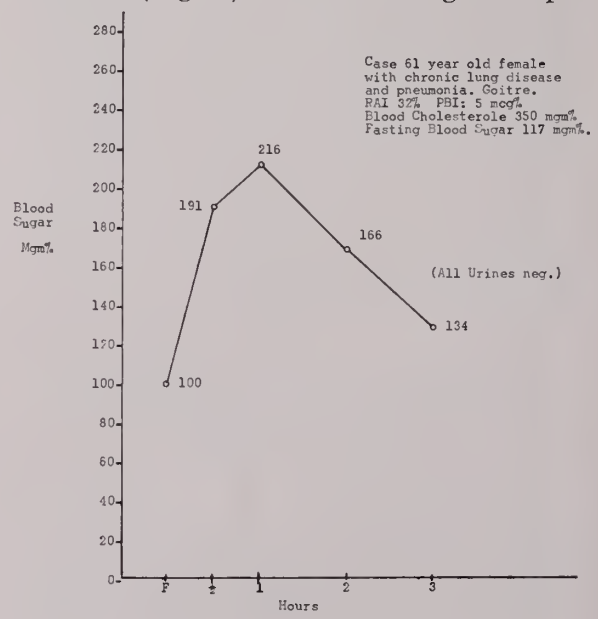

Fig. 5

tient's chronic lung changes were enough to account for her persistent pulmonary infection, she was found to have another causative factor.

Hypoglycemic episodes are not an infrequent clinical syndrome and are usually considered to be secondary to hyperinsulinism due to pancreatic adenomas, functional or alimentary hypoglycemia, hypoadrenalism, hypothyroidism, cigarette smoking and other causes. It has been recognized, however, that hypoglycemia may be part of the early symptomatology of sporadically compensated and uncompensated diabetes. *In fact this may be the chief symptomatology of the patient.* The basis for this seems to be the glucose stimulation of the pancreatic islets to produce insulin during a hyperglycemic state, thus leading to an excess of insulin. Later the pancreas loses this ability to be stimulated and the true diabetic picture emerges. This symptom may exist for periods of up to six years prior to the clinical recognition of diabetes.[9] The case of a 28-year-old white female represents such a problem. She gave a history of weakness, fatigue, weight loss, large appetite and clinical hypoglycemic episodes. Her mother's sister had diabetes. A urine sugar was negative and a three hour PC blood sugar was 92 mgms.% A glucose tolerance test indicated mild diabetes, with the blood sugar level sustained at 200 mgms.% in two hours falling to normal at three hours. Since the hypoglycemic symptoms depend more on the rate of fall of the blood sugar than the actual hypoglycemic range, a fall in one hour from 220 mgms.% to 105 mgms.% possibly could account for the headache, lightheadedness, nausea and other symptoms the patient had clinically and during the tolerance test. (Fig. 6)

"Benign Glycosuria": This term may well have a place in medical terminology, but if so, it surely is an exclusion diagnosis. The minutest trace of sugar in the urine should be looked upon with suspicion and a wholehearted effort made to rule out diabetes. This latter effort should go far beyond that of a repeat urine or a solitary blood sugar which are reported as normal. A glucose tolerance test is surely indicated if one fails to obtain a positive report from the blood sugar taken two hours post-prandially. As has been pointed out repeatedly in the mild and even moderately severe diabetic, one normal blood sugar does not rule out diabetes. Granted that one may find that the urine reducing substances is one of the non-glucose mellituria or possibly one of the non-sugar reducing chemicals such as salicylates, menthol, chloral hydrate, aminopyrine or even homogentistic acid found in alkaptomuria. (Remember, however, the glucose-oxidizers such as Tes-Tape, Clinistix, react only with glucose.) Also it is recognized that the renal threshold during pregnancy may be lower and one may find sugar in the urine with

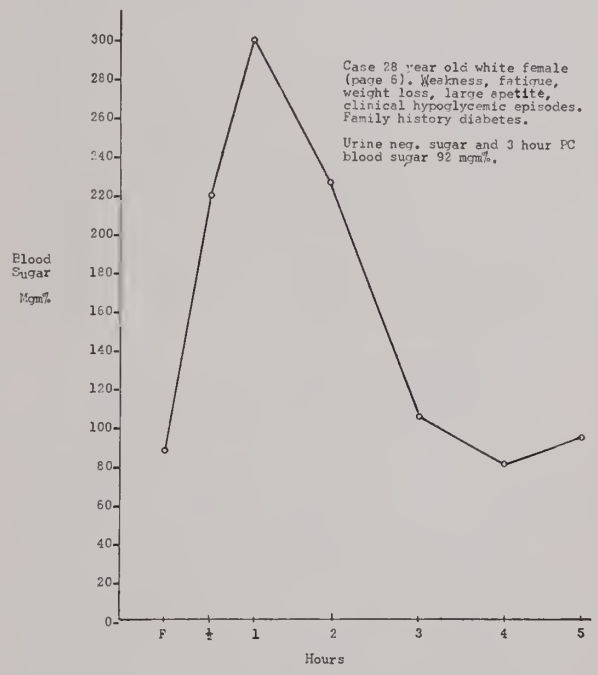

Fig. 6

renal ailments such as Fanconi's syndrome or renal tubular acidosis. However, all this does not obviate the fact that it may be diabetes. This is true also of the tendency to discount urine sugar spilled during a therapeutic intravenous of glucose. The possibility of a transient hyperglycemia because of starvation, hepatic disease or other causes is to be considered; however one must also consider the fact that the patient is receiving 50

grams of glucose with every 1000 cc of 5% glucose solution, and thus a glucose tolerance test. The case of a 59-year-old white male admitted to the Roanoke Memorial Hospital in 1959 is only one example of many such cases. Because of abdominal symptomatology associated with nausea and vomiting he was given an intravenous of 5% glucose in saline the night of admission. Urine collected that evening showed a two-plus sugar. A repeat urine the next day was negative, but a blood sugar done on the second day (about 24 hours after the I.V.) was 158 mgms.%.

In a series of 1140 cases reported by Pomeranze,[9] 96 had been told that they had insignificant urine sugar sometime prior to the development of full blown diabetes. The case of a 56-year-old white male is interesting, but perhaps not unusual. He was examined for life insurance in 1954, at which time sugar was noted in one urine specimen. He was sent home to return the next day, and he was told that his urine was clear at that time, and apparently obtained the insurance and a clean bill of health. His mother was a severe diabetic and in 1956 this patient was seen with a moderately severe uncontrolled diabetes.

Diagnostic Significance of the Complications of Diabetes

The clinical observations in the past and present in conjunction with the availability and use of the Cortisone-glucose tolerance test, Tolbutamide Response test and others, have focused attention on the fact that the complications of diabetes may exist prior to the onset of overt glucose intolerance or the diabetes may be so mild that it may escape detection. Dr. Freedman[10] sums this up very well with the following excerpt from his paper. "Renal failure with peripheral neuropathy and retinitis should arouse suspicion of diabetes even if no hyperglycemia or glycosuria is noted. The carbohydrate defect may be so slight that diagnosis can be made only on the basis of a glucose tolerance test. The patient may report having had symptoms of diabetes in the past. Destruction of the anterior pituitary or the adrenal glands or weight loss in a previously obese individual may ameliorate diabetes. Liver or thyroid disease may also influence carbohydrate metabolism." This latter is illustrated by the case of a 51-year-old white female who was treated for diabetes in 1937 by insulin and diet. She stated that in a few years she was "cured", but then developed symptoms that by 1957, when I first saw her, fitted like a glove with her PBI of 1.5 mcg.%. Her hypothyroidism was treated and within four to six months she began to manifest overt diabetes again.

Blurring of vision is a common complaint of uncontrolled diabetes. This may be due to dehydration of the eyeball or to pathological changes in the cornea, lens or retina. Paresis of accommodation is a frequent finding and lens opacities or cataracts should stimulate the search for diabetes. The typical retinopathy of diabetes consists of hemorrhages, exudates and particularly microaneurysms of the retinal capillaries. Frequently these changes are first noted by the ophthalmologist and he makes the diagnosis without the laboratory tests.

It seems to be agreed that at the same time the retinal capillaries are being affected by the aneurysms, the renal capillaries are undergoing the same degeneration (Kimmelsteil Wilson Dis). Again it must be stressed that these complications can occur prior to the development of overt diabetes or in conjunction with mild glucose intolerance. Collens et al[11] recently described such a case with both retinal and renal complications, who had a normal glucose tolerance test except on one occasion when he developed an infected toe. A stress test with Cortisone proved the existence of diabetes.

The awareness of the occurrence of *neuropathy*, as an initial clinical manifestation of diabetes and recognition of the fact that it can appear before the occurrence of overt diabetes, may help solve some obscure clinical problem. Its clinical appearance may be in the form of a peripheral neuropathy of the extremities, pseudotabes, argyll-robert-

son pupil and other manifestations. Pomeranze[9] recorded 114 cases of neuropathy appearing prior to clinical diabetes. Eighty-five had neuropathy of the lower extremities, 11 had typical diabetic diarrhea and 14 had evidence of sexual failure. Loss of libido and impotence is not an uncommon complaint in diabetes and when noted should stir the index of suspicion. A 45-year-old white male was recently admitted to the hospital with complaints of fatigue, weakness, depression, prostatitis and loss of libido. The urine showed 50-75 WBC per Hpf; blood cholesterol was 290 mgms.% and a fasting blood sugar was 97 mgms.%. The RAI was 35% and a PBI was normal. A glucose tolerance test was done (Fig. 7) and the two

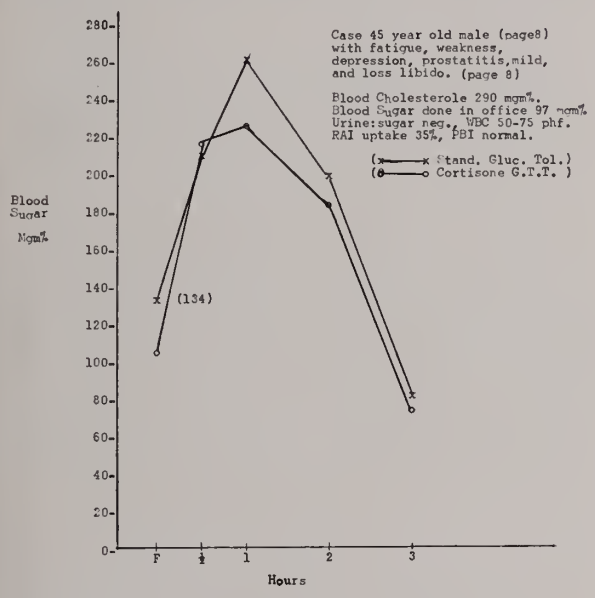

Fig. 7

hour specimen remained elevated, although the three hour blood sugar was normal. The diagnosis of diabetes mellitus was made and with Orinase and weight loss this patient's symptoms abated to a large degree and his libido returned.

Pomeranze[9] states that all cases of sudden paralysis of the muscles supplied by the third, fourth and sixth cranial nerve should be investigated for and if necessary followed for the development of diabetes.

Coronary and peripheral arteriosclerosis with their manifestations of pain and vascular occlusions have been outstanding features of diabetic morbidity and mortality. Their increased frequency in association with the diabetic state, in contrast to the non-diabetic population, again warrants the consideration of glucose intolerance when handling such a patient. A brief account of an example of this is a white male, age 64, who over a period of many years developed repeatedly respiratory infections, complained more and more of weakness, fatigability, anorexia and weight loss and in 1956 developed intermittent claudication. Then he went on to manifest hypertension, coronary arteriosclerotic myocardial disease with abnormal electrocardiographs. He was hospitalized on several occasions during the years between 1956 and 1960 and such ailments as thyroid disease, pheochromocytoma, parathyroid disease, collagen ailments were ruled out. In 1959 a cholesterol was 260 mgms.% and in 1960 reported as 320 mgms.%. Since the PBI and RAI seemed to ruled out hypothyroidism as a cause of the hypercholesterolemia, and even though repeated fasting blood sugars had been normal (87 mgms.%, 114 mgms.% range), a glucose tolerance test was done and proved to be diagnostic of diabetes. (Fig. 8) With Orinase therapy the patient's wife volunteered that he acted more like himself than he had for years.

Another interesting case was that of a 62-year-old white female who was admitted to the hospital with coronary insufficiency with occlusion. She manifested a hypercholesterolemia and a fasting blood sugar of 98 mgms. %. A glucose tolerance test was done and indicated diabetes. (Fig. 8)

The increased incidence of *cholecystitis and cholelithiasis in the diabetic* has long been recognized. This fact alone warrants a thorough screening of all gallbladder patients for diabetics. A study by William R. Jordan, M.D.,[12] led him to the conclusion that gallbladder disease preceded the onset of diabetes twice as often as the reverse was true, and that its duration was an average of 12.9 years prior to the onset of diabetes. This, then emphasizes the importance of follow-up observations in post-operative cases over a long

period of time. The cortisone-stress tests perhaps would indicate a percentage of these diabetics.

A whole new concept concerning *pregnancy and diabetes* has developed within the past few years. As stated by Dr. Shlevin[13] "in the past, many internists and obstetricians have considered the abnormal glucose tolerance test during pregnancy as innocuous. This perhaps has done more harm than

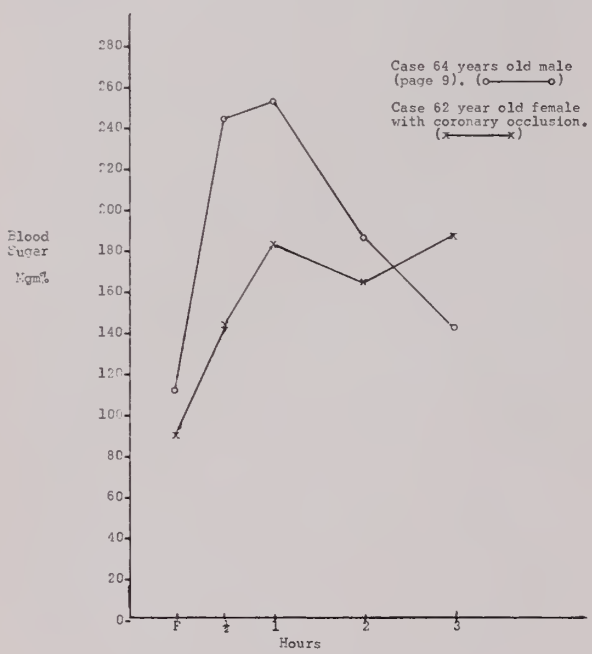

Fig. 8

good by throwing out of focus the proper principles of management of the unrecognized diabetic." The information now gathered plainly points to the fact that fetal and neonatal mortality occurs in extremely high percentage of mothers with pre-diabetes or unrecognized overt diabetes.

A statistical review[14,15] showed the following average findings. History of fetal and neonatal mortality in the range of 20-40% noted in mothers in a period of five years before the development of overt diabetes (in contrast to a control group showing 5%). Large babies of 10 pounds or more have been found to be born to 20% or more of pre-diabetic mothers, often 10 to 20 years before the onset of overt diabetes. Also the pre-diabetic mother has been shown to manifest toxemia in about 10%, abortion 10% and pre-natal loss 30%.

All of this emphasizes the importance of studying the diabetic existence or potentiality in women of childbearing age, particularly if there is a Family History, Poor Obstetrical History or Glycosuria during pregnancy.

Summary

It has been the purpose of this paper to review the subject of the Diagnosis of Diabetes Mellitus. The case reviews were used to impress the fact that they do exist in our practice and not just in the text book. It has been emphasized that the physician cannot depend on the "Text Book Picture" before making the diagnosis. We must utilize our routine urine examinations and more frequently the routine blood sugar, however we must remember their limitations. Much more important is the awareness of the pre- or potential diabetic and the often unrecognized dif-diabetic. This awareness and a good clinical knowledge of the disease create a "High Index of Suspicion" without which many diabetes will go undiagnosed. Then comes the employment of the various diagnostic tests until one can definitely state: There is no Diabetes. (Table #1 summarizes many of the points mentioned in the paper.)

Table #1

Summary of the Symptoms, Clinical Features and Complications Which Should Create a High Index of Suspicion in the Diagnosis of Diabetes

Symptoms
- Weakness-Fatigue
- Weight loss
- Blurred Vision
- Polyphagia
- Polydipsia
- Polyuria
- Dysuria
- Pruritus Vulvae
- Loss Libido

Clinical Features
- Integument and mucous membrane alterations, infections and dermatoses:
  - Dry skin
  - Dry mucous membranes
  - Furunculosis
  - Nail infection (especially fungous)

Delayed healing of lacerations and surgical wounds
Vaginitis
External Otitis Fungous Infection
Xanthalasmia
Necrobiosis Lipoidicum Diabeticorum
Xanthoma Diabeticorum

Systemic chronic resistant infections:
Pulmonary infection
Pyelonephritis
Cystitis
Prostatitis

Miscellaneous:
Family History of Diabetes
Obesity
Hypoglycemic syndrome
Hypercholesterolemia
Post therapeutic intravenous glucose finding of urine sugar.

COMPLICATIONS

Retinopathy—Capillary aneurysms
Cataracts
Nephropathy
Neuropathy
Abnormal Pregnancy
Arteriosclerotic Heart and peripheral vascular disease.
Cholecystitis with lithiasis

BIBLIOGRAPHY

1. Best, Charles H.: Diabetes Mellitus. Pfizer Spectrum 5: 114-115 Feb. 15, 1957.
2. Goetz, Frederick C., M.D. and Guggenheim, Peggy Rose: The Use of Simple Enzymatic Tests for Glucose in Detection of Diabetes. (Evaluation by means of a modified glucose tolerance test.) Diabetes 7: 393-397 Sept.-Oct. 1958.
3. Packer, Henry, M.D. and Ackerman, Robert F., M.D.: A Comparison of Benedict's and the Glucose Oxidase Tests for the Mass Detection of Diabetes. Diabetes 7: 312-315 July-Aug. 1958.
4. Allan, Frank N., M.D. and Georgeson, Lloyd W., M.D.: A Candy Tolerance Test in the Detection of Early Diabetes. (A Preliminary Report).
5. Wilkerson, Hugh L. C.; Hyman, Harris; Kaufman, Mildred; McCuistion, Alvin C., and Francis, John O's.: Diagnostic Evaluation of Oral Glucose Tolerance Tests in Nondiabetic Subjects After Various Levels of Carbohydrate Intake. New England J. Med. 262: 1047-1053, May 26, 1960.
6. Conn, Jerome W., M.D. The Prediabetic State in Man. Diabetes 7: 347-357 Sept.-Oct. 1958.
7. Fajans, Stefan S., M.D. Notes from the Diabetic Post-Graduate Course, 1957.
8. Vacca, Joseph B., M.D.; Knight, William A., Jr., M.D. and Broun, Goronwy O., M.D.: Clinical Observations Regarding Xanthelasma. Ann. Int. Med. 51: 1019-1029, Nov. 1959.
9. Pomeranze, Julius, M.D.: Subthreshold Diabetes. Ann. Int. Med. 51: 219-225, August 1959.
10. Freedman, Lawrence R., M.D.: Inapparent Diabetes Mellitus as a Cause of Renal Insufficiency due to Kimmelsteil Wilson Lesions. Bull. Johns Hopkins Hospital 100: 132-138, 1957.
11. Collens, William S., M.D.; Silverstein, Joseph N., M.D. and Dobkin, Gerald B., M.D.: Ann. Int. Med. 50: 1282, May 1959.
12. Joslin, Elliot P., M.D.; Root, Howard F., M.D.; White, Priscilla, M.D. and Marble, Alexander, M.D.: Treatment of Diabetes Mellitus. Lea and Febiger 1952. Chapters XIV pages 395-397; Chapter XVI pages 464-467.
13. Palmer, L. J., M.D.; Given, W. P., M.D.; Shlevin, E. L., M.D.; White, Priscilla, M.D.; Wilkerson, H. L. C., M.D.: Pregnancy and Diabetes (Panel Discussion). Diabetes 6: 523-533, Nov.-Dec. 1957.
14. Jackson, W. P. U., M.D. and Woolf, M., M.D.: Maternal Prediabetics As A Cause of the Unexplained Stillbirth. Diabetes 7: 446- Nov.-Dec. 1958.
15. Conference on Current Trends in Research and Clinical Management Of Diabetes. (Interim Summary) April 11 and 12, 1959. New York Academy of Sciences—Printed by the Upjohn Company.

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The Case Against Cholesterol in Atherogenesis

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The author doubts that an elevated blood cholesterol is important etiologically in atherosclerosis, feeling rather that it is a result, not a cause, of disease.

HOW SUSCEPTIBLE have we become to the current widespread information concerning cholesterol in atherogenesis? Have we swallowed it hook, line, and sinker, or have we paused to analyze it in the light of pertinent and obviously inconsistent data?

Atherosclerosis consists of two components: the atheroma, a plaque-like intimal deposit of neutral fats, cholesterol, lipophages, and occasionally blood and other evidence of hemorrhage; and the sclerotic phase which represents a physical change of the arteries. It is not clear whether or not the two anatomical components are related. The atheromatous component is thought to be increasing, although the cause for this is not apparent. Above normal elevation in serum cholesterol has been implicated as an important etiological factor. It is felt by the writer that undue emphasis may have been placed upon this substance.

The case for cholesterol in atherogenesis has been presented. Scientific and lay literature abound with information and discoveries which show correlation between the two. One could write a book on these discoveries and not begin to enumerate them all. Too much of this substance is considered, by some, the father of death; too little is not considered pathologic. Yes, this molecule has gained our respect and few doubt its importance.

In medicine we associate the abnormal with pathology; however, in atherosclerosis we have decided that a normal cellular substance, in a slightly high elevation, is capable of producing disease. Disease is usually caused by pathological substances, not normal cells or cellular substances. For example, in leukemia there is a pathologic white cell in the leukocytosis. In contrast, the physiologic leukocytosis in lobar pneumonia is desirable. Could not a pathological lipid be involved in atherogenesis?[1]

Cholesterol has gained its exalted position in atherogenesis by presenting a good case. We could allow witness after witness to bulletin his claim; however, we shall confine our attention to only part of the evidence.

The first witness is the pathologic lesion. Analysis of the atherosclerotic lesion reveals it to be rich in cholesterol. The cholesterol, phospholipid, and neutral fat ratios, however, are the same as those of the blood plasma. Why should cholesterol be signaled out in preference to other lipids? Furthermore, does its presence predicate its guilt? Guilt by association is circumstantial. It does not control judicial thinking; therefore, why allow it to distort medical thinking?

We do not consider hyperglycemia as the etiological factor in diabetes mellitus; hypercalcemia certainly is not the cause of hyperparathyroidism. I have heard no one state that Bence Jones protein causes multiple myeloma. Why the paradox with cholesterol? Hypercholesterolemia is the result of disease, not necessarily the cause.

The next witness testifies that atherosclerosis can be simulated in several animal species by experimental conditions which disturb lipid metabolism; (i.e., by administration of cholesterol or bile salts, derangement of thyroid function, etc.) Anitschow first

published his classical experiment in 1913 and this type of experimental approach has since absorbed the attention of scientists; notwithstanding, many now doubt its importance. Since neither man nor beast ingests cholesterol in the pure state, the administration of cholesterol by Anitschow amounted to poisoning.[1] The rabbit lesion consists of lipid deposition in the intima of the intramyocardial part of the coronary artery. This location is usual in human disease. Furthermore, the animal lesion was devoid of the sclerotic component. The atherogenic-inducing potentialities of the same diet differ in different species. The fact that a certain diet has been found atherogenic in one species is not prima-facie evidence that this will be obtained in other species. Dr. Samuel Gordon of Lederle Laboratories has reported that the chipmunk-sized gerbil has remained atheroma-free on a one per cent daily cholesterol diet—far in excess of what an average man ingests daily. The serum cholesterol in sixty gerbils which were studied reached a peak of 1,200 mg. per 100 c.c. about a week after the one per cent diet began. Later, blood cholesterol leveled off at about 600 mg. per 100 c.c. After six months thoracic and abdominal aortas of gerbils were examined microscopically. In no case was there any evidence of atheroma formation. No correlation, pertaining to humans, should be attached to Anitschow's experiment.

The next witness is a group of diseases in which there is a high serum cholesterol level and also a higher rate of atherosclerosis. Diabetes mellitus, nephrosis, myxedema, xanthematosis, and familial hypercholesterolemia fall into this category. Conversely, in thyrotoxicosis, a disease associated with hypolipemia, there is a decreased incidence of atherosclerosis. In idiopathic steatorrhea, with impaired dietary absorption of fats, atherosclerosis is seldom seen. Innumerable studies correlate hypercholesterolemia with angina pectoris. Data to substantiate this correlation is endless. This witness has presented strong evidence—but is the only similar abnormality among these conditions hypercholesterolemia? Isn't it plausible to assume that there are other abnormalities, that are common to all, with which we are not familiar? We know that if there is one physical anomaly there is greater risk of multiple anomalies. Similarly, I feel that it is reasonable to assume that a child born with a potential carbohydrate metabolic deficiency would also be prone to develop a metabolic lipid or protein deficiency. The increased relationship between diabetes, gout, and hyperlipemia would fortify this theory. Some diabetics escape the lip anomaly and, clinically, this is vertified. Hypercholesterolemia should be expected to co-exist in many diseases!

Diet, as an etiological factor in atherogenesis, has been given considerable impetus by Ancel Keys and his associates.[2] Worldwide studies have demonstrated a relationship between the level of serum cholesterol and dietary fat intake. Those populations with a higher percentage of fat in diet have a higher incidence of atherosclerosis. It is likely that, in a susceptible individual, diet could speed the atherosclerotic process, or any process; however, there are those who do not develop premature atherosclerosis regardless of diet. Witness the obese, senescent glutton who is continually signaled out by those patients who do not wish to diet. If diet is an important etiological factor in the development of atherosclerosis we must pity the poor ulcer patient who must exist on his atherogenic diet! To draw etiological conclusions from worldwide dietary studies is misleading since there are genetic predisposition and protection. Of children with one hypercholesterolemic parent, 17% are hypocholesterolemic; when both parents are normal cholesterolemic, only 2% have high serum levels.[3] Many feel that hyperlipemia is an endocrine disorder and that diet would be no more important in its development than diet is an etiological factor in diabetes.[4] Keys has tried to correlate the lack of atherosclerosis among the Bantu with their low fat diet. The American Negro, who has a generous dietary fat intake, has a markedly

less incidence of coronary heart disease than his white counterpart. The Negro apparently is sickle cell and tubercular susceptible; but in retribution, God made him atherosclerotic resistant. I do not wish to discredit the potential value of Key's work but there are variable factors in diet which he fails to consider. The possibility of an anti-atherogenic factor in diet (like the intrinsic factor in pernicious anemia) is not mentioned. The intima of the Bantu's arteries has not been exposed to the many and varied chemical compounds, such as penicillin, sulfa, food preservatives, vitamin-enriched foods, tetracyclines, etc., as has the intima of his white counterpart. Could not the increase in atherosclerosis be due to the increased consumption of one of these substances? As remote as it may seem, this hypothesis can be argued statistically. Either this observation is true or it reveals the fundamental weakness of a purely statistical approach to pathologic events.

The influence of sex hormones on atherogenesis has been cited as evidence. Women, particularly young women, possess some degree of protection from atherosclerosis and its more serious complications. Oophorectomized women lose this protection. Administration of estrogen to men who have survived one or more attacks of myocardial infarctions accomplishes several actions on the abnormal blood lipids found in these men.[5] Since many hormonal substances are involved in lipid metabolism (pancreas, adrenals, and thyroid) it is unlikely that lipids are influenced, primarily, by sex hormones. Wolffe feels that atherogenesis could be a metabolic disease; it is his opinion that the vascular complications of diabetes mellitus can be attributed to the present manufacture of "pure" insulin. In the present manufacture many protective hormonal factors of the pancreas are being destroyed. The great French cardiologist, Prof. Vaquez, stated that he had never encountered the vascular complication of diabetes mellitus while using crude insulin. These observations, also, have been substantiated by his own studies.[6]

Statistics in many and varied forms have been presented as evidence. They show correlation between super cholesterolemia and atherosclerosis. There is no doubt that physicians are more coronary-conscious and there may be truth in the statement that the death rate from coronary artery disease is directly proportional to the number of physicians per thousand population. The importance of correct diagnosis in relation to statistics becomes doubly apparent when we realize that the margin of error in detection of atherosclerosis is considerable. How does one measure total atherosclerosis? Unfortunately, a little in the wrong location can be fatal and the individual in question becomes a statistic. This is in contrast with the bald hirsute. As baldness is not fatal he receives scant attention. There are no hair-raising funds for his glossy pate! This individual doesn't lack hair-growing ability—he just cannot grow it in the right location! Similarly, the coronary atherosclerotic just doesn't grow his atherosclerosis in the proper location.

Mechanical factors and hemodynamics doubtless contribute to the development of atherosclerosis—a fact which has long been recognized. The pressure maintained in the cardiovascular system must have an important influence in the production of organic changes in its walls. The selective predilection for development of the atherosclerotic lesion fortifies the etiological significance of hemodynamics. Here, also, lies a fertile field for future investigation.

Though scarcely enough attention has been given the intimal cells in atherogenesis, they are undoubtedly important. Could not the pathology be in these cells rather than in that with which they come into contact? I feel that the atheroma may be analogous to the colloid goitre. In colloid goitre the first reaction to iodine deficiency is hypermia, decrease in the amount of colloid and hyperplasia of the thyroid epithelium. Later, there are involuntary changes which include colloid accumulation, fibrosis, cyst formation, hemorrhage, and calcification. One

readily sees some gross similarity between the two pathologic conditions.[7]

Sometimes we must look beyond the apparent because the apparent may not be real. We must be aware of the obscure and seemingly unrelated cause-and-effect. The medical treatment of atherosclerosis has already been littered with carcasses of premature and false claims. I am sure that when the final answer is discovered we shall find that many treatments have been harmful. We now realize the danger from the unfortunately promiscuous use of adrenal steroids and antibiotics—a situation which was not foreseen.

It is difficult to change when one has accepted the basic premise of a system. We are taught that there is an answer to everything, but by accepting the imperfect reality we may often do better. In "Novum Organum", Sir Francis Bacon established first his doubt of all things before proceeding to a consideration of knowledge. "In general," he said, "let every student take this as a rule —that whatever his mind seizes and dwells upon with peculiar satisfaction, is to be held with suspicion; and that so much care is to be taken; in dealing with such questions, to keep understanding even and clear. Doubt all things before you believe anything? Watch your idols." Could this be true with cholesterol? I feel that we must proceed with caution when we manipulate the cholesterol molecule. We should not be too readily swayed by those who demand that the public be told "the truth" while we are still attempting to find the answer. We should be wary of explaining the increase of atherogenesis when the etiology is not known. I do not disagree with those who advise lowering elevated serum cholesterol—but let us limit our methods. The widespread publicity given to diet will burden many with fad diets.

The constant search for and introduction of new products by the pharmaceutical industry is ample evidence of the lack of uniformity of opinion and satisfaction with this subject. New products have been, and will continue to be, introduced at a rapid rate. Let us keep our reason clear and not shift from product to product with each touted claim.

Far too few realize that behind the headlines a scientific debate is raging!

Bibliography

1. Hartroft, W. Stanley: J.A.M.A. June 1959.
2. Keys, Ancel: A Symposium Presented By the Minnesota Heart Association and the University of Minnesota. September 7, 8, and 9, 1955.
3. Vawtes, Gordon F.: Symposium on the Pathogenesis of Atherosclerosis. Military Med. May, 1957.
4. Wolffe, Joseph B.: New York State J. Med. 56: 15, August 1, 1956.
5. Russ, E. M., Eder, H. A., and Barr, D. P.: Influence of Gonodal Hormones on Protein Lipid Relationship in Human Plasma. Am. J. Med. 1954, 1955.
6. Wolffe, Joseph B.: Personal Communication.
7. Barr, David P.: Diseases of the Thyroid Gland. Cecil-Textbook of Medicine 7th edition, 1948.

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Keratoplasty

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Corneal grafting is not only useful in restoring vision but also in the treatment of certain eye diseases. It is to be hoped that donor eyes will become increasingly available to expedite this work.

UP UNTIL RECENT YEARS keratoplasty could only be done satisfactorily in the larger medical centers. During the last few years, more Eye Banks have been established throughout the country* and donor eyes are now more freely available to the ophthalmologists in smaller centers. This improved availability has been of benefit to the patient unwilling to travel distances to have the necessary surgery and also to those patients that have had keratoplasties done to arrest rapidly worsening corneal diseases.

Keratoplasty can be divided into two basic techniques: first, the penetrating and second, the lamellar graft. In penetrating grafts, the whole thickness of the cornea is replaced. Most operators restrict the size (diameter) of the graft to within certain limits (5-8 mm).

In our series, the most satisfactory results were obtained in the 6-7 mm. grafts. Originally, keratoplasty was done almost entirely for optical purposes, i.e., to improve vision. As the field and techniques have advanced, more uses for keratoplasty have been found and the field of therapeutic keratoplasty has been enlarged. The conditions that respond most satisfactorily are keratoconus (90-95%), nodular and lattice dystrophy (80%), interstitial keratitis (60%), disciform keratitis (60%), leukomas and pyogenic ulcers (50%).

In the following series, several cases were done for visual improvement primarily; several others for therapeutic reasons. We have twelve patients (13 eyes) that were done for visual improvement and eight that were done for therapeutic reasons. Those done for visual improvement included keratoconus, nodular dystrophy (Groenouw's), dense leukomas following injury or corneal infections. If the patient's vision fell below 20/200, in bilateral disease, keratoplasty was indicated. In those cases with unilateral scarring, a preoperative visual acuity of 20/100 or less, surgery was indicated. In most of these cases, a penetrating keratoplasty was performed. The following techniques was used:

1. Mild sedation, e.g., 75 Demerol, Nembutal gr. 3/4, Phenergan 25 mgm.—one hour before surgery.
2. Diamox 250 mgm.—three hours before surgery and repeated one-half hour before surgery.
3. Irrigation of lacrimal sacs with normal saline.
4. Instillation of Pilocarpine, 2%, four to six times before surgery to produce miosis. Starting two hours before surgery.
5. Sterile pre-operative preparation.
6. Akinesia, Van Lint and retrobulbar, using Xylocaine 1%.
7. Lid sutures were used to retract lid. 40 black silk fixation sutures inserted through superior rectus and inferior rectus.

*Eye Bank and Sight Conservation Society of Virginia, 711 South Jefferson Street, Roanoke.

The graft was removed from donor eye with a Castroviejo trephine and similar button was removed from recipient eye. Graft was positioned and sutured in place with Virgin Silk (10-0) direct appositional sutures, (15-24 sutures), depending on the size of the graft. Air was inserted into anterior chamber with 27 gauge needle. The pupil was either constricted or dilated to hold the iris from the incision. One eye was bandaged only. Bed rest the first four days, then patient was ambulatory. Sutures were removed on the twenty-first day. Patients were kept on antibiotics and steroids as required.

Summary of Cases Done Primarily For Visual Improvement

Case #1, Mr. G. A., age 52, had had repeated attacks of herpetic keratitis in O. S. over the last four years with severe scarring of the cornea, and with severe visual loss. Vision had been reduced to light perception and large objects only. He had had no further ulcerations or flare-ups of the herpetic condition for one year before time of surgery. Mr. G. A. underwent a penetrating keratoplasty using a 6 mm. graft with direct appositional sutures. His recovery was uneventful and at the time of discharge, his vision was 20/70 in the affected eye. After eighteen months, his vision had improved to 20/60 and the graft is completely clear.

Case #2, Mr. I. M., age 47, had a long history of visual difficulty dating back from his early twenties. When examined, he had bilateral keratoconus and pre-senile cataracts in both eyes. His vision, at the time of surgery, was reduced to 20/400 in O. D. and light perception and large objects only in O. S. It was decided to do the patient's left eye first, using a penetrating keratoplasty and in six months to do a cataract extraction. A 7 mm. penetrating graft was done on his left eye, using direct appositional sutures. He had an uneventful recovery, the graft remained clear and in six months the graft was completely clear when he was re-admitted to have a cataract extraction. He had an intracapsular extraction with a wide iridectomy, and once again he had an uneventful recovery from this. Fortunately, the graft remained clear and at the present date, two months after his operation, his vision is 20/20 in his left eye with correction. He is returning for similar procedures on his right eye.

Fig. I. Case # 2, I. M. Post-operative. Patient had pre-senile cataracts and keratoconus, O. U.
O. S. 7 mm. penetrating graft and intracapsular extraction and iridectomy.

Case #3, Mrs. H. H., age 48, also had keratoconus in both eyes and history of visual difficulties over the last fifteen years. When admitted for surgery, she had vision of count fingers at ½ meter in either eye which could not be improved either by lenses or contact lenses. It was decided to do a penetrating graft on her right eye and a 7 mm. penetrating graft, with direct appositional sutures, was performed. She had an

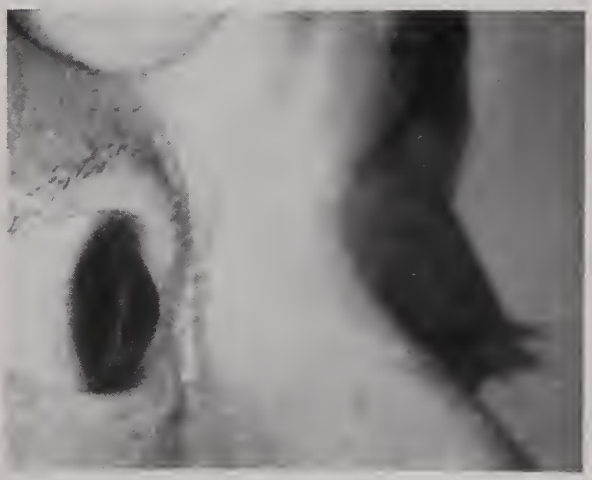

Fig. II. Case #3, Mrs. E. H. Pre-operative. Showing advanced keratoconus, O. D.

uneventful recovery and was discharged from the hospital at the end of one month. Her vision at the end of one year was 20/50, without correction, in her right eye. It could be improved to 20/40 with correction and a contact lens at a later date will probably improve this further. She was re-admitted two months before this article was written and a 7 mm. graft was done in her

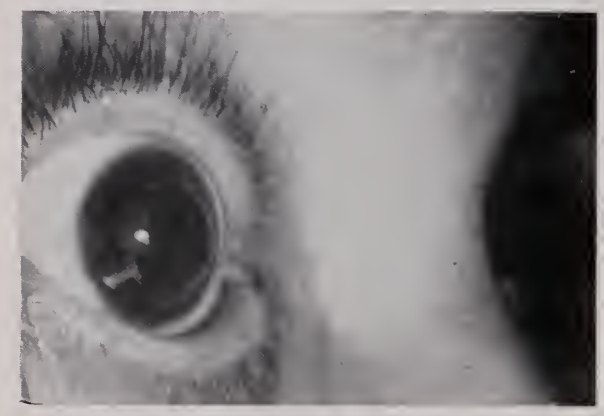

Fig. III. Case #3, E. H. Post-operative. Showing 7 mm. penetrating graft.

left eye. The graft is progressing satisfactorily, is gradually clearing and we hope that she will have satisfactory vision in her left eye as well.

Case #4, a man, age 56, had keratoconus, much more marked in his left eye. He had not had satisfactory vision in this eye for ten years. On examination, V. O. D. was 20/40, V. O. S. was count fingers at ½ meter. A 7 mm. penetrating graft was done, with appositional sutures, on the left eye. He had an uneventful recovery. The graft was cloudy at first but has gradually cleared and when this patient was discharged, his vision was 20/200. He was discharged from our care to be followed by his local ophthalmologist. We do not have a final visual acuity on this patient.

Case #5, Mr. O. J., age 48, had bilateral Groenouw's distrophy of the granular type. V. O. D. was count fingers and V. O. S. was count fingers. He had a 6 mm. penetrating keratoplasty, O. S. Four weeks postoperatively he developed secondary glaucoma, which was controlled by iridectomy. At first the graft remained clear, but over the next three months it gradually became cloudy. His vision was not improved. This represents a failure and the patient should have a re-graft.

Case #6, Mr. B. F., age 46, who also had Groenouw's dystrophy. Vision was count fingers at one meter in either eye and he had a 6 mm. penetrating keratoplasty, O. S., with direct appositional sutures. His vision at the end of three months was 20/70 and at the end of two years the graft is still clear.

Case #7, Mr. H. W., age 59, had a severe injury to his left eye which had resulted in a corneal ulcer and dense leukomatous formation which had been present for approximately twelve years. His vision at the time of operation was light perception only. He had a 6 mm. penetrating keratoplasty with

Fig. IV. Case #7, H. W. Post-operative. 6 mm. penetrating graft for central leukoma, O. S.

direct appositional sutures. His vision, at the end of three months, was 20/60, with correction, and gradually improved over the next four months to the neighborhood of 20/40. At the end of 2½ years, the graft is still clear. It is interesting to note that this patient, eight months after he had the keratoplasty, developed an optic neuritis in his right or good eye, with complete loss of vision, decreasing his vision to 20/400 so the patient had to rely on his operated eye. The neuritis cleared; however, his vision has remained in this eye at about the 20/40 level. I think this is one of the best arguments that we have seen for operating on patients that have one good eye and one that has a corneal

lesion that could be benefited by keratoplasty. This patient, if he had not had the keratoplasty, would have been completely incapacitated for the time that he had the optic neuritis.

Case #8, Mr. M., age 41, also had a severe injury to his left eye in childhood resulting in a dense central leukoma involving the full thickness of the cornea. Vision at the time of operation was V. O. D. 20/30 and V. O. S. light perception only. He underwent a 7 mm. penetrating keratoplasty and at the end of three months his vision was 20/200. He was discharged to his local ophthalmologist and we do not have a final visual acuity on him.

Case #9, Mr. F., had had a severe injury to both eyes from chemical keratitis with opacification of the whole cornea. The right eye had been removed ten years before. In the left eye the whole cornea was severely scarred, involving the full thickness of the cornea. He had a complete opacification of the cornea and had received radiation three

THOSE DONE FOR VISUAL IMPROVEMENT

Patient	Age	Indications	Type of Graft	Pre-Op Visn.	Post-Op Vision With Correction	Overall Result
H. W.	59	Central leukoma, O. S.	6 mm. Penetrating Keratoplasty	Light perception	20/60 2½ years	Improved
A. M.	41	Central leukoma, O. S.	7 mm. Penetrating Keratoplasty	Light perception	20/200	Improved
W. F.	50	Chemical keratitis with complete opacification of cornea, radiation cataract	8 mm. Penetrating Keratoplasty Cataract extraction 6 months later	Poor light perception	Poor light perception	Unimproved
G. S. A.	52	Central leukoma from repeated herpetic keratitis	7 mm. Penetrating graft	L. P's.	20/80	Improved
I. M.	47	Keratoconus Pre-senile cataracts, O. U.	7 mm. Penetrating graft, O. S. 6 mos. later intracapsular cataract extraction	Light perception and hand movements	20/20	Improved
H. H.	48	Kerataconus, O. U.	7 mm. graft, O. D. Penetrating	Count fingers ½ M.	20/60	Improved
H. H.	48	Kerataconus, O. U.	7 mm. penetrating graft, O. S.	40/400	20/100 6 wks. post-op.	Improved
I. W.	56	Kerataconus, O. U.	O. S., 7 mm. penetrating graft	O. D.—20/40 O. S.—Count fingers ½ M.	V. O. S. 20/200 6 wks. Post-operative No follow up	Improved
O. J.	48	Groenouw's Dystrophy, O. U.	6 mm. penetrating, O. S.	L. P's. and hand movements	Graft cloudy L. P's.	Worsened
B. F.	46	Groenouw's Dystrophy, O. U.	7 mm. penetrating, O. S.	L. P's. and hand movements	20/70—4 mos. Latest follow up	Improved
T. D.	65	Bilateral iridenclesis Cataract extraction, O. D. O. S.—Dense corneal leukoma, senile cataract	7 mm. lamellar keratoplasty	Hand movements and L. P.	Count fingers	Improved
R. S.	44	Dense central leukoma, O. S.	7 mm. penetrating keratoplasty, O. S.	Light perception	20/70 4 wks. post-op.	Improved

years before to decrease the vascularization of the cornea. This had, in turn, produced what appeared to be a radiation cataract; however, this cataract was not visible until after the time of surgery. He had an 8 mm. penetrating keratoplasty with freeing of anterior synechia. This graft remained clear and at the time of surgery, the dense cataract was visualized. His preoperative vision was light perception only, the graft remained clear and at the end of six months the cataract was removed. Following the cataract extraction, the graft became cloudy and even after a re-graft, it remained cloudy. His vision at the time is still light perception.

Case #10, Mrs. D., age 65, had chronic open angle glaucoma for fifteen years and had had bilateral iridenclesis and a cataract extraction, O. D. This had resulted in a Bullous Keratitis, O. D. Light perception was present in this eye. In her left eye she had a dense corneal leukoma, probably in the nature of a corneal dystrophy from a long-standing glaucoma. She also had a moderately advanced cataract. Vision was hand movements and count fingers, poorly, at ½ meter in this eye. The leukoma involved the outer ⅔ of her cornea so a lamellar keratoplasty, 7 mm. in diameter, was done and this graft has remained clear and her cornea has cleared considerably. At the present time we are waiting for approximately eight months to a year before we do a cataract extraction. With her long-standing history of glaucoma, and her difficulties with her right eye, the chances of her getting a good result are slim but still, with her vision the way it is, there is very little to be lost.

Case #11, Mr. S., age 42, had an injury to his left eye fifteen years before. Three years following this injury he had severe ulceration of his left eye which resulted in a dense leukoma involving the full thickness of the cornea. His vision, when seen here, was light perception only in O. S. and 20/25, O. D. He had a 7 mm. penetrating keratoplasty with direct appositional sutures. This completely replaced the corneal scarring and at the end of six weeks his vision has improved to 20/80.

In the patients that were operated on for improvement of their vision, earlier cases were done using the outlined technique but using 6-0 black silk with Grieshaber needles. These sutures, of course, are fine but we found they produced considerable corneal irritation and it was not until two years ago, when we switched over to 10-0 Virgin Silk, that we noticed a marked improvement in our operative results. There was much less irritation present in the eye, sutures could be left in longer which resulted in much better healing and apposition of the keratoplasty wounds, and when they were removed there was much less chance of collapse of the anterior chamber. Our visual results follow pretty well the pattern established elsewhere. The results in keratoconus were excellent, the results in corneal dystrophy were about 50%, and the results in corneal leukomas in the neighborhood of 70%. In the earlier cases we had to rely on eyes shipped in from New York and elsewhere and very often these eyes were used at almost the end of the 48-hour period. In the later cases that we have done, we have obtained eyes locally and used them within 12 hours. We found that the grafts have remained much clearer earlier, and the overall results are more satisfactory. The finding, of course, applies only to the penetrating types. We have not noticed any difference using fresh eyes or older eyes in the lamellar keratoplasties.

Therapeutic Keratoplasty

Therapeutic keratoplasty is developing into a most useful and gratifying procedure in treating chronic and recurrent diseases of the cornea. Herpetic infections of the cornea have increased in incidence and importance. It is now the most frequent cause of visual loss due to corneal opacities and is becoming the most frequent indication for therapeutic keratoplasty in this country.

Herpes simplex of the cornea responds

poorly to most treatment. In our practice, the number of severe cases with deep stromal involvement has increased over the last two years. In the recurrent cases, the only satisfactory method is the total removal of the involved cornea by keratoplasty.

In Herpes, the transplants were done for several reasons. Usually, the transplants are indicated in recurrent episodes of superficial keratitis either diffuse or circumscribed, or deeper lesions recurring over many months. In active cases with deep stromal involvement with threatened perforation, grafting is definitely indicated. The removal of the diseased tissues has a beneficial effect through several suggested ways. It removes the infecting virus and the necrotic tissue associated with it. The graft possibly introduces fixed antibodies to the host cornea also. Felatov believes the introduction of new tissue has a beneficial biological effect. Vascularity is also reduced which brings about a diminution of the allergic reaction. Therapeutic grafting has been beneficial in certain types of perforating ulcers (bacterial and fungal) and at times this technique may be an outright emergency. The technique followed in our cases is basically the same as the perforating keratoplasties except only a partial thickness of the cornea is removed (0.5 to 0.6mm). The postoperative recovery period is much shorter and most of these people can return to work within 2-3 weeks.

Corticalsteroids are contraindicated in herpes simplex; however, steroids are a great therapeutic tool in corneal grafting. They have been used in three of the cases done in the series with beneficial effect and as yet no untoward effects.

Probably some of the most satisfying surgery that we have done has been in the field of therapeutic keratoplasties:

Case #1: Mr. H., age 50, who had had a bilateral cataract extraction which had resulted in a Bullous Keratitis with almost intractable pain in his left eye. He had the choice of having his left eye removed or trying a therapeutic keratoplasty. His vision in this eye before surgery was light perception and hand movements. We explained to the patient that chances of his getting a satisfactory result through keratoplasty were not good, but with the other alternative, he was anxious to try the corneal graft. A 7 mm. penetrating keratoplasty, with direct appositional sutures, was done. The patient had an uneventful recovery, the sutures were removed on the twenty-first day. The graft remained semi-transparent; however, his vision was improved to count fingers at ½ meter. The most remarkable thing in this case is that he had complete relief of pain and this has continued over the last year. How long it will continue, we do not know; however, the patient is well satisfied and we have not had to remove his eye as yet.

Case #2, Mr. E., age 64, who was admitted here with a perforated corneal ulcer, had ulceration of his cornea and had been on ophthalmic solutions which combined antibiotics and steroids for three weeks before being seen. When admitted, the ulcer had already perforated and we thought probably that the ulcer had been due to a mycotic infection. No bacteria could be cultured from it and no fungi were cultured. We debated whether the eye should be removed because an early endophthalmitis was present. We had at this time an extra eye, left over from another corneal transplant, which was three days old and had exceeded the suggested time limit. A 7 mm. penetrating graft was done which completely removed the corneal ulcer and during the operation the prolapsed and adherent iris was excised. The graft, to our surprise, took very satisfactorily; it did not remain perfectly clear, it was semi-transparent; however, the general condition of his eye improved and the infection subsided. He does not have any useful vision in his eye at present and after eight months it is still injected and probably the safest course to follow would be to enucleate the eye.

Case #3, Mr. T. D., age 40, had a chemical burn to his left eye which resulted in a symblepharon, approximately the 5 o'clock position. This had recurred despite

several removals. The inferior cul-de-sac had been restored by a conjunctival graft but he still had an adhesion on to the cornea. He was admitted and an elliptical piece of cornea containing the symblepharon was removed. A similar elliptical piece of donor cornea was grafted in its place. The thickness of the cornea that was grafted was approximately ⅔ the corneal thickness. It was held in place by direct appositional sutures to the cornea and to the sclera. His vision before surgery was 20/30 and after two months his vision was 20/25. The important thing here is that the symblepharon has not recurred and the lamellar graft has remained perfectly clear. We feel that this is an ideal procedure for this type of injury and also in recurrent pterygiums. It is relatively free of complications and does not carry the danger of a penetrating graft.

Case #4, Mr. W., age 30, who had had a corneal dystrophy, O. D., since birth and apparently had had a congenital rupture of Descemets membrane which had resulted in a chronic Bullous keratitis. He had gotten along fairly well up until one year before the operation, at which time he started having repeated erosions of the corneal epithelium and ulceration. This resulted in severe pain and over the last three months the patient had been unable to work. He had light perception and hand movements only in this eye. Vision in his left eye was 20/20. He was advised that he might benefit from a keratoplasty; however, the chances of its improving his vision were not good, but it might result in relief of pain. He had an 8 mm. penetrating graft and he made an uneventful recovery. To our surprise, the graft gradually cleared and at the present time his vision is 20/400 in this right eye. He had a dramatic relief of pain and at the end of six months has had no ulceration.

Case #5, Mr. T. S. D., age 65, had had repeated violent infections of the corneas of the right eye. These were herpetic and resulted eventually in a disciform keratitis of a severe nature which resulted in complete opacification of the superficial layers of the cornea, actually the outer half of the cornea. He kept having repeated ulcerations and pain. Because of this, we advised him to have

THERAPEUTIC GRAFTS

Patient	Age	Indications	Type of Graft	Pre-Op Visn.	Post-Op Vision With Correction	Overall Result
T. D.	40	Symblepharon recurrent	6 mm. lamellar keratoplasty, eccentrically placed	20/30	20/25 No recurrence	Improved
S. W.	30	Congenital corneal dystrophy, rupture of descemets membrane Recurrent ulceration	8 mm. penetrating graft, O. D. O.D.	L. P's.	20/400	Improved
T. S.	65	Disciform keratitis severe, recurrent ulcerations	8 mm. lamellar graft	L. P's.	Count fingers No recurrence (5 mos.)	Improved
M. C.	39	Disciform keratitis (18 mos. duration)	7 mm. lamellar graft, O. D.	L. P's. and hand movements	20/70 (6 wks.) No recurrence	Improved
C. G.	30	Repeated attacks, herpetic keratitis O. D. for 5 years	8 mm. lamellar graft, O. D.	Count fingers O. D.	20/70 (7 wks.)	Improved
H. H.	50	Bullous keratitis O. S. Post cataract Intractable pain	7 mm. penetrating keratoplasty	L. P's. and hand movements	Count fingers ½ M. Relief of pain one year	Improved
C. E.	64	Perforated corneal ulcer, O. S.	7 mm. penetrating, O. S.	L. P's.	L. P's.	Temporary improvement

a keratoplasty. An 8 mm. lamellar keratoplasty was done, held in place with direct appositional sutures. His vision before surgery was light perception only and he made an uneventful recovery, his cornea has cleared remarkably, at the present time he counts fingers and at the end of four months has had no recurrence of his ulceration and no recurrence of his pain. Over the next few months the graft will probably clear even more and, if his eye stays quiet, we plan to do a penetrating keratoplasty to improve his vision.

Case #6, Mrs. M. C., age 69, had a severe disciform keratitis, O. D., for 1½ years and in spite of various treatments here and elsewhere, no relief could be obtained. She had intractable pain which had made it impossible for her to work or carry out her duties. She was admitted to the hospital and a 7 mm. lamellar keratoplasty was done, completely removing the disciform ulceration. Her vision before surgery was light perception and hand movements, and at the end of two months her vision is 20/70. The cornea has healed nicely and she is completely free of pain.

Fig. V. Case #6, Recurrent herpetic keratitis, O. D. (5 years)

Case #7, Mr. G., age 30, had repeated attacks of herpetic keratitis involving his right eye over five years time. Over the last year he had had six attacks of herpetic keratitis which necessitated his stopping work, and even with conventional treatment he still had pain which at times required narcotics. He was advised to have a keratoplasty and was admitted to the hospital. An 8 mm. lamellar keratoplasty was done. His vision, before surgery, was count fingers in his right eye and 20/20 in his left. At the end of six weeks, his vision is 20/70 and improving. He has had a dramatic relief of pain and is back to his old occupation. His cornea is completely free of ulceration and in the patient's own words: "It is the first time in five years that my eye has felt like a normal eye."

The common indication in our series was herpetic keratitis. We found this a most useful tool in the treatment of these diseases and the only satisfactory one we have at the present time. Improvement of vision was not remarkable in these cases, but the relief of pain was, and these patients are probably the most satisfied of any of the keratoplasty patients we have had. Some of these cases in the therapeutic series were done because the only alternative was enucleation and we feel that we have rescued several eyes which otherwise would have been removed.

The complications in keratoplasty are frequent, especially in the penetrating type of graft. Clouding of the graft is a constant

Fig. VI. Case #6. 8 mm. lamellar graft (therapeutic) replacing the involved tissue.

worry and seems unrelated to surgical technique, although if the graft edges are sharp and in good apposition, the incidence of clouding is decreased.

In our early cases we had some difficulty with the edges bulging in parts of the graft. We were removing the sutures on the fourteenth day and were using 60 black silk. Since using virgin silk and leaving the sutures

in for twenty-one days, we have not been plagued by this difficulty.

In one case, secondary glaucoma developed which was controlled by iridectomy but the graft has remained cloudy.

In the treatment of herpetic keratitis the complications were nil and the results in these cases are second only to the results in keratoconus.

In the one case of perforated ulcer, the patient has maintained his eye but it has remained irritated and probably will be enucleated in the future.

References

1. Paton, R. T.: Keratoplasty, New York, McGraw, Hill, New York p. 76.
2. Hogan, M. J.: Corneal Transplantation in the Treatment of Herpetic Disease of the Cornea. Am. J. Ophth. 43: 147, Opr. Pt. 11, 1957.
3. Ormsby, H. L.: Superficial Forms of Herpetic Keratitis. Am. J. Ophth. 43: 107 Apr. Pt. 11, 1957.
4. Fine, Max: Treatment of Herpetic Keratitis By Corneal Transplantation. Am. J. Ophth. 46: 671, 1958.

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Less TB and Increasing Lung Cancer

A decline in deaths due to tuberculosis has been suggested as a factor in the increasing occurrence of lung cancer.

Writing in the December 31st Journal of the American Medical Association, Drs. Broda O. Barnes, Denver, and Max Ratzenhofer, Graz, Austria, said more persons were surviving TB early in life only to contract lung cancer in their later years. They predicted that "a large increase" in lung cancer could be expected as tuberculosis deaths continue to decline.

Their conclusions were based on data from 26,546 autopsies performed during the past 15 years at the University of Graz.

The study showed that "a great reduction in tuberculosis is occurring in Graz, as elsewhere." It also showed that the average age of patients who died from tuberculosis was rising.

"In 1944, the average age at death was 38 years, while in 1957 it was 54 years. In other words, the tubercular patient was approaching the 'cancer age' before death."

A further indication was that TB and lung cancer are not found frequently in the same person at the same time.

It appears "that there are two diseases competing for the same person: tuberculosis at an early age and bronchogenic carcinoma as he grows older."

"It should be expected that countries with a high incidence of tuberculosis would have a low incidence of bronchogenic carcinoma and vice versa, unless other factors are present."

"Our data indicate that a large increase in bronchogenic cancer can be expected as the death rate from tuberculosis decreases.

"At the turn of the century, the United States had about 200 deaths per 100,000 from tuberculosis. If the same proportion of the population is susceptible to tuberculosis today, and if 20 per cent of this same population is susceptible to bronchogenic carcinoma, then 40 per 100,000 might succumb to lung cancer when tuberculosis is eradicated. This, of course, is conjecture, but it illustrates that a further increase in bronchogenic carcinoma may be expected."

Kartagener's Syndrome

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A case of this unusual syndrome is reported. The patient was treated surgically with considerable improvement.

KARTAGENER'S SYNDROME refers to a congenital bronchiectasis with situs inversus and chronic sinusitis. It is interesting to note that about fifteen to twenty per cent of the congenital dextrocordias are associated with bronchiectasis, which is an incidence infinitely greater than usually present in our general population.[1]

This combination of dextrocardia, bronchiectasis, and sinusitis was first described by Kartagener in 1933. Since that time approximately fifty cases have been so described and reviewed.[2,3]

There is a clear association between mucoviscoidosis of congenital cystic pancreatitis origin and infant bronchiectasis. However, the Kartagener's Syndrome does not seem to be associated with mucoviscoidosis. There is rather a congenital and extremely early appearing basilar pulmonary infection associated with saccular bronchiectasis and severe recurrent pulmonary infections. This triad is so unusual in actual occurrence that this author thought it noteworthy to report an interesting case with description of surgical lobectomy and dramatic improvement.

Case History

D. M.—A ten year old white male who had been chronically ill since infancy, with poor development and recurrent severe pulmonary infections.

This patient had an older sister who also suffered from situs inversus, chronic sinusitis and bronchiectasis. The sister was operated upon approximately four years earlier, but did not survive the surgery.

The bronchograms revealed basilar bronchiectasis on the right side, confirmed by the auscultatory findings of poor breath sounds, wheezes, and rhonchi at the right base. The findings of complete situs inversus with the air bubble on the right side, the liver on the left side, and the heart in the right chest indicated a reversal of the pulmonary anatomy.

Because of the discrete localization of bronchiectasis in the right lower lobe (anatomical left lower lobe) a lower lobectomy was done through the right chest and a completely destroyed atelectatic and bronchiectatic left lower lobe was removed from the right chest. Following surgery the patient did well with an uneventful recovery and

Fig. I. Bronchogram revealing extremely poor filling on the right with beading of the bronchi.

is now one year post-operative. There has been adequate wound healing and a disappearance of the chronic pulmonary infections. The child has now returned to school, is gaining weight, and carries on usual childhood activities for his age.

Discussion

The occurrence of the pan sinusitis in Kartagener's Syndrome makes it impossible to say whether the sinusitis or the bronchiectasis comes first. Both may be a manifestation of an increased susceptibility to infections for reasons unknown to us at the present time. It is known that reduced susceptibility to a disease does occur in congenital malformations as in the Fanconi Syndrome, and certainly it is also recognized that bronchiectasis has been observed in other debilitating diseases, such as congenital heart disease, Kilppel-Feil Deformity, and Polydactyly.[5] It is probable that the usual causes of bronchiectasis, that is, chronic infection,

Fig. II. Postoperative x-ray with catheter in position. Note the heart in the right chest. A left lower lobectomy has been performed through the right chest.

with gross destruction of bronchial walls, and obstruction with a mechanical narrowing of the bronchial lumen produce the end result of bronchiectasis. Why these children with situs inversus are more susceptible is entirely unknown, and probably falls somewhere in the realm of poor "ground substance" or weak protoplasm. These general terms do not adequately or scientifically express a clear understanding of the deficiency, but to the knowledge of this author there is no further adequate explanation. Probably the answer to this problem lies in the determination of serum protein abnormalities and correct evaluation of amino acid and fibrinogen synthesis in the determination of ground substance quality.

Fig. III. Chest x-ray one year postoperatively revealing essentially clear lung fields. Note that the heart is retracted further into the right chest.

Summary

1. A description of Kartagener's Syndrome is given with a case illustration in which a successful resection of the bronchiectatic lobe was performed.
2. A brief discussion of the syndrome is presented with a review of available information.
3. It is felt that significant relief from this congenital abnormality can be obtained if there is adequate localization of the bronchiectasis affording an op-

portunity for resection and removal of the diseased portion of the lung.

References

1. Olsen, A. M.: Am. Tuberc. 447: 435, 1943.
2. Kartagener, M.: Beitr. Klin. Tuberc. 83: 489, 1933.
3. Zuckerman, H. S. and Wurtzebach, L. R.: Dis. of Chest. 19: 92, 1951.
4. Adams, R. and Churchill, E. D.: Situs inversus, sinusitis, bronchiectasis. J. Thoracic Surg. 7: 206, 1937.
5. Lindskog and Liebow: Thoracic Surgery and Related Pathology, Appleton Century Crofts.

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Fights Congestive Heart Failure

The mechanical kidney has become a weapon against heart disease. An article in the December 24th Journal of the American Medical Association describes the role of the artificial kidney in saving the life of a 45-year-old woman suffering severe congestive heart failure.

It marks another triumph for the mechanical kidney, originally designed to substitute for malfunctioning kidneys and later found to be useful in treating poisoning victims. The artificial kidney, which duplicates the work of the kidney by filtering waste products from the blood, can remove poisons from the body much faster than the human kidney.

Drs. William M. Lemmon, Teruo Hirose, Robert A. O'Connor, and Charles P. Bailey, New York Medical College, Metropolitan Hospital Center, said the "intentional use of the artificial kidney for the treatment of congestive cardiac failure, per se, has not been described previously."

Congestive heart failure is a disorder of the heart's function characterized by the accumulation of blood and fluids at various sites in the body. Surgical intervention is not possible unless the excess water can be removed. While this can be accomplished with most patients by using normal procedures, occasionally there are patients who do not respond. Death "not infrequently" is the inevitable result among these patients.

The patient in the case reported fell into this category. The failure to remove the excess fluid prevented an operation to correct her heart defect (mitral stenosis). It was then decided to try the artificial kidney. They found that several pounds of fluid could be removed through use of the device and that after its use the patient became responsive to previously ineffective measures.

Following the success of this treatment, an operation was performed and the patient "was cured completely."

Alcoholism . . . .

JAMES ASA SHIELD, M.D.

The following article is the first of a series of articles to be written by the members of the Committee on Alcoholism. This committee consists of Dr. William S. Sloan, Chairman, Dr. Ebbe C. Hoff, Dr. William F. Gibbs, Dr. James Asa Shield, Dr. John J. Jofko.

Office Treatment of the Alcoholic
Do-It-Yourself Medicine-Alcohol

The trend toward "do-it-yourself" is nothing new for the alcoholic. He has long been treating his personality problem by dosing himself with alcohol. Just as when the home do-it-yourself fan paints himself into the corner and, finally, has to call in a professional painter, so the alcoholic, figuratively speaking, finds himself in such a position that eventually he, too, seeks professional help.

When the alcoholic presents himself for treatment, it is imperative that we as doctors accept him as a sick person suffering from a serious, debilitating disease which interferes with his functioning capacity.

His alcoholism must be considered to be only a small part of the personality disorder he presents. Alcoholic addiction is treatable, but it is a medical problem of increasing frequency, and should be viewed with alarm by industry and the general public.

Often, in the first interview we learn that the alcoholic began drinking in college or in that age group. Probably, he was a little ill at ease at parties or gatherings, and after the first drink he became more comfortable. So, he begins to "self-medicate" himself with alcohol, and at this age, we find him drinking a little more than the other boys and getting a little drunker more frequently.

In this first interview and in subsequent interviews, he does not tell you all. He himself does not understand all about the sociological, the psychological, and biological reasons for his addiction. Furthermore, he does not understand how the culture of his family backround, the actions, and the reactions within his family revolving around him towards others, and others towards him have contributed to his feeling of being accepted, loved, rejected, or just put up with.

The therapy requires understanding of the patient as he has evolved through his life experiences: the culture into which he was born, the people with whom he has lived, loved, and by whom he has been loved or rejected have much to do with his present emotions. The alcoholic's illness is almost certainly emotionally motivated. His emotional reactions have affected his past adjustments and his present feelings about the society through which he has evolved, and is living with at present.

When we say that the physician must treat the whole individual and not just his disease, it is not just a trite phase. It is a reality that the physician today must accept. This demands that we approach the complaint of alcoholism as merely a symptom, and turn to the basic disorder and study it in a comprehensive manner; physically, calling on all the biological medical aids; psychologically, making use of testing techniques, such as the Rorschach and other personality tests, that help in the appraisal of the patient's psychological reactions, and studying the patient's adjustment from year to year, and making use of any other sociological background data that is available through interviews with the patient, his family, and other friends.

Cancer Trends . . . .

ARNOLD M. SALZBERG, M.D.

Malignant Neoplasms of Infancy and Childhood in Virginia. I. Incidence by Mortality

It is proposed to evaluate cancer in children in Virginia in a series of brief communications in order to ascertain the role of this disease in the child-health complex on a local level.

Mortality statistics as a guide to the incidence of malignant neoplasms, including those of lymphatic and hematopoietic tissues, will obviously under-estimate the true incidence for a variety of reasons. Nevertheless, this approach can furnish some insight into its prevalence.[3]

The relative importance of cancer as a cause of death in infants and children has increased with the decline in death rates from more preventable and curable illnesses. In addition, a certain percentage of lives so prolonged develop cancer so that an actual increase may also have occurred.[1,3]

In Virginia, in 1958 and 1959, cancer ranked fourth as a cause of death in the one through four year age group. It accounted for 65 patients, or 8% of the total deaths and was exceeded by accidents, influenza-pneumonia and congenital malformations. Between five and fourteen years, malignant neoplasms are the second most frequent cause of death, surpassed only by accidents. (Table I) These orders of frequency in both age groups are duplicated on a national level.[4]

In 1957 and 1958, 163 infants and children from one through fourteen died of cancer, including leukemia, in this state. This accounted for 10% of the total deaths in this age group. (Table II) Again, this agrees rather well with the national death rate of 9% due to malignant neoplasms in this age period.[1]

TABLE I

Mortality According to Age of Four Leading Causes of Death in Virginia, 1958 and 1959

Rank	Age Group and Cause of Death	Number	%
	1-4 Years		
	All Causes	850	100
1	Accidents	237	28
2	Influenza and Pneumonia	137	16
3	Congenital Malformations	95	11
4	Malignant Neoplasms	65	8
	Other Causes	316	37
	5-14 Years		
	All Causes	713	100
1	Accidents	263	37
2	Malignant Neoplasms	91	13
3	Congenital Malformations	50	7
4	Influenza and Pneumonia	37	5
	Other Causes	272	38

TABLE II

Number of Deaths From Malignant Neoplasms in Children Compared to Total Deaths in Children From All Causes in Virginia, 1957 and 1958

Age Group	Number of Deaths		% Due to Malignant Neoplasms
	All Causes	Malignant Neoplasms	
1-4	853	67	8%
5-9	395	53	13%
10-14	314	43	14%
Total	1,562	163	10%

There were 8902 deaths from cancer in all age groups in 1957 and 1958, of which 172 or slightly below 2% occurred between birth through fourteen years. (Table III) This is higher than the 1.4% reported from New York City in 1957.[2]

It is apparent that childhood cancer com-

From the Pediatric Surgical Service, Department of Surgery, Medical College of Virginia Hospitals, Richmond, Virginia.

prises a small segment of the total cancer problem, but a reasonably large segment of the mortality within its own age group.

TABLE III

MORTALITY FROM CHILDHOOD CANCER AS A PERCENTAGE OF TOTAL DEATHS FROM CANCER IN VIRGINIA, 1957 AND 1958

Age Groups	Deaths From Cancer	
	No.	%
All Ages	8,902	100
0-4	76	
5-9	53	
10-14	43	
Total Under 15 years of Age	172	2

The assistance of Mr. Deane Huxtable, State Registrar, and Miss Mary Boozer, Statistician, Virginia Bureau of Vital Statistics, is gratefully acknowledged.

BIBLIOGRAPHY

1. Ariel, I. M., and Pack, G. T.: Cancer and Allied Diseases of Infancy and Childhood. Little, Brown and Co. Boston and Toronto. 1960.
2. Bureau of Vital Statistics, Department of Health, New York City.
3. Dargeon, H. W.: Tumors of Childhood. Paul B. Hoeber, Inc. New York City, 1960.
4. National Office of Vital Statistics; U. S. Department of Health, Education, and Welfare, Public Health Service, June, 1958.

Heart Month

Once again February, the Month of Hearts, is here. For the people of Virginia and throughout the nation, this month brings to mind two heart symbols, the Valentine and the Heart and Torch emblem of the Heart Fund Campaign.

During the entire month of February, the Heart Fund Campaign is in progress. At this time, the public is being asked to contribute to the support of the programs of heart research, education, and community service which are supported by the Heart Fund. Virginia Heart Association, and its chapters and councils, which are sponsoring the campaign in Virginia, have set a combined goal of $415,000.

Part of the funds raised in the Virginia campaign will be used to continue and expand heart research which is under way at the Medical College of Virginia and at the University of Virginia School of Medicine, and to assist with heart research sponsored by American Heart Association. Also, a portion of the donations to the Heart Fund will be used to develop further the programs of heart education and various community services throughout Virginia.

Contributions may be sent to the Virginia Heart Association, 812 West Franklin St., Richmond 20, Va., to the local Heart chapter, or to "Heart," c/o Local Postmaster.

Mental Health . . . .

JULIAN G. HANLON

Social Service Responsibilities in a State Hospital

This is a broad topic which has been assigned to me today, and it seems that I have given this talk many times before in many different places. Each time my paper has had to be rewritten because the responsibilities of social service, like every other department in a state hospital, are constantly changing, and it is necessary to revise one's concepts of these responsibilities from day to day and month to month.

My invitation to speak on social service responsibilities has generally come from one of two sources. On occasion I have been invited into a hospital by a Superintendent or Clinical Director who was vaguely dissatisfied with his Social Service program. My assignment then was to "jack up" the Social Service staff. Sometimes the invitation has come from the Social Work Department which felt that it wasn't "understood or appreciated." My assignment here was viewed as that of a special pleader or interpreter for the Social Work group. I do not regard my appearance here as serving either of these purposes, since I have been invited both by the Superintendent and the Chief of Social Service. I will, therefore, try to take a position somewhere between these two extremes and, hopefully, make a contribution in both areas.

Actually, I believe that most hospital Social Work departments do need "jacking up", or, to put it into more professional terms, critically evaluated, now and then. In a large institution such as a state hospital, with its terrific pressures on everyone and where there is always more work than a Social Work department can handle, it is very easy to feel justified by busyness. In so doing, a department excuses itself from ever taking a hard look at its on-going social work practice or the goals which the department is striving towards.

There is also something to the idea that social work is not adequately understood or valued by other disciplines in the hospital community. Please note that I deliberately omitted the word "appreciated", for I am inclined to suspect the maturity of any department that yearns too desperately for appreciation. Appreciation comes following performance rather than before. I realize also that this problem of more complete understanding is not the problem of Social Service alone. One can hear the same plaint from clinical psychologists, from nurses, from therapists, occupational and physical, and, yea, even from physicians. All of these groups periodically have the feeling that life could be beautiful and therapeutic success greater if only the skills of their particular profession were fully recognized and used to the maximum.

At the root of much of this trouble, I believe, is our pious dedication to the concept of teamwork and our actual preoccupation with problems of our own discipline and the advancement of our own viewpoint which may take us afield from the best interest of the people we are supposed to be serving. We struggle for personnel to fill positions in our hospitals but do not work as hard on maximum utilization of these individuals for the benefit of patients. In a sense we have a tendency to take our eye off the patient, and if any of you are golfers and

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I may draw a parallel, you are well aware that this can lead to trouble and poor results.

And now back to social work! It wasn't too long ago that as I went my round from state to state as a Regional or Area Consultant, I seemed to be waging warfare on the concept of the social worker as an odd-job person. If the patient lost his baggage, then, naturally, Social Service was to look for it. If it was decided that a bulky, twenty-year-old medical record be abstracted, then the social worker did this. Letter writing for illiterate patients was also appropriate utilization of social work time. Many social workers who had invested heavily in professional education, equipped with hard-earned Master's Degrees and progressive field experience which had brought them finally into psychiatric social work, had the feeling that their contribution to patient care and rehabilitation could be on a higher level. I recall that gradually some of these routine tasks began to be sloughed off, and one saw the social worker emerging in the state hospital as a professional person. The social worker began to appear at staff meetings, not just to copy down the diagnosis which was then reported back to the department. She began to participate in staffing, and through her contribution helped to delineate the patient's difficulty and contributed to the formulation of a diagnosis and treatment plan. She began to be heard with increasing respect when discharge plans were formulated. At this point all of this descriptive development sounds fine, laudable, and, above all, reasonable. When and where this happened it was all of these. But this was spotty and ever so gradual. I suspect that at certain hospitals many social workers are still performing in the old way, due, to a great extent, to their own lack of clarity as to their major role within the hospital as well as the inability of certain administrators and medical staff to see or accept them in any other way.

In some areas this change was even more dramatic. I have heard this age not so facetiously referred to in social work circles as the "age of seduction". Social workers began to work more directly with patients on a face-to-face, one-to-one basis. Since social workers in their training had for years been prepared through social case work techniques to operate in this way, this should not have been a surprising development. However, it was not without its problems, some of which still exist with us today.

During the "age of seduction" in social work we became enchanted by the opportunity to work so closely with psychiatry. The social work field moved very rapidly towards becoming "psychiatric". The attachment of a psychiatric label to the social worker became a symbol of prestige, and I think deservedly so. On the other hand, it was not uncommon for many social workers to add this psychiatric title merely because they were filling jobs in a psychiatric setting rather than because of any special training which gave them a right to style themselves in this fashion. I believe it was about this time that one began to hear the words "junior psychiatrists" applied to social workers somewhat derisively or else used by responsible social workers in affirming the separateness of social work and in protesting that "junior psychiatry" was not the goal of their profession. There was some concern expressed in the ranks of psychiatry over social workers' aggressiveness, although, if my psychology friends will permit, I do not believe they were considered as threatening as clinical psychology by our psychiatric colleagues. There was a feeling that basically we "knew our place" in the hierarchy.

On the other hand, it is true that we found social workers on occasion taking over the title of therapists, with the blessing of many psychiatrists, I might add, but also with some misgivings on the part of other social workers. My impression is that this did not happen with any frequency in state hospitals but was more than likely confined to psychiatric out-patient clinics. This was due, I suppose, to the fact that the level of social work training in state hospital staffs at that time was considerably lower, but an

even more important factor, in my opinion, was that the realities of life in a state hospital and the pressures of the job did not permit the luxury of "intensive therapy" for social workers or anyone else on the hospital staff.

One must admit that many of these individuals were, and still are, skilled therapists, able to understand and utilize teaching of their psychiatric mentors and even contribute something to the psychiatrist's understanding. They were able to use themselves with discipline in a helping relationship with patients and perfectly capable of providing help to disturbed people.

I have skimmed lightly over this historical development because I did not intend it to be my major theme, nor do I wish to give the impression that these days are completely behind us. I do believe, however, that today we have a greater development of the social worker's role in relation to the psychiatric patient and considerably more clarity as to the areas in which the social worker operates most effectively. Much of this clarity has come out of the work of social service departments in large federal and state hospitals. I think this was because in these hospitals one was able to see all the complexities of a patient's problem and one was forced to grapple with that large area of patients' needs beyond "therapy" in a narrow sense. I am convinced that no matter how jaundiced or prejudiced one feels about the concept of teamwork, a tour of duty in a state hospital impresses upon one's mind that a therapeutic program for patients cannot be the province of any one professional group and that a good job cannot be done without teamwork in its finest sense. It is in this kind of setting, where many dedicated people were groping for answers, that psychiatric social work, I believe, has been able to plant its feet most firmly on the ground. I cannot imagine any place that would be a greater challenge to a social worker or where there is a greater opportunity for effective service than in a large hospital such as this.

I would like to comment briefly on the social work role at various points in the patient's hospital life, in the hope that these remarks may stimulate comments, or at least some self-examination as to the way things are at present here at Eastern State.

Pre-admission. At one time, if you mentioned pre-admission social service in the state hospital, your suggestions would be waived aside as being visionary or at least of dubious value. I no longer find this to be true. Many hospital social service departments are moving out to meet the patient and his family in the community before hospitalization is necessary. I think this has several purposes, all of them sound. First of all, it gives an opportunity for better interpretation of the hospital, its functions, and its limitations, which, I believe, may bring about more appropriate admissions, minimize the number of emergency admissions, and smooth the way for easier admissions where this is indicated. In many cases through this service it is possible for the patient to participate in his own hospital admission. It certainly provides an excellent opportunity for establishing a beginning relationship with the family which will enable them to maintain a positive, non-rejecting attitude throughout the period of care and ultimately help them to receive the patient back with more understanding and readiness. Such services have proved themselves extremely helpful in institutions for the retarded, where the specter of a long waiting list hangs over the hospital staff and forces them to work with a sense of urgency because of the real and fancied pressure from the community. I think we need to examine this phase of social service work more closely, and I would like to see some small descriptive research projects which would outline some of the problems and strengths when one adds this to the social service program.

Admission. Second, and in logical sequence, is the time of intake. Hospitals have made much progress in this area, I believe, through humanizing their admission procedures, providing early workups of patients, and moving them quickly into treatment programs where this is indicated. For the

social worker, early work with the family at this point is quite important, and by this I do not mean merely grabbing the harassed relative and extracting history information from them at admission. It seems to me it might be far sounder if we could devote our time to more sympathetic attention to the problem the relative may have in hospitalizing the patient. Some awareness that this relative's life may be dislocated at this point and that the problems he faces after he leaves the patient may be more burdensome than any the patient will have to grapple with for the next few months. Our treatment of the relative at this point sets the tone for what he may expect from the hospital in the future. I see this as an area requiring extremely skillful handling. I feel certain that it pays dividends at later periods.

I cannot leave this area without a few words about social histories. I confess to somewhat unreasonable personal feeling about this, since as a younger social worker I did many social histories which involved slavish adherence to a very complete life history outline, much of which, as I look back, was not used by anyone for the patient's benefit. I like to think, then, that histories done by the social worker, or secured by them from community agencies, will be more than factual information on a piece of paper. History taking should be considered part of the treatment process and calls for great skill and sensitivity on the part of a well-trained social worker. The product should be a clear delineation of the patient's difficulty in his social setting, the circumstances which led to his hospitalization, and the positive and negative factors in his life which will have to be considered as the hospital plans with him for his future. I think we have actually moved far away from the day when social workers routinely did these studies on every patient, only to find that the patient had been discharged when the material was written up, an indication of how little importance was attached to the exhaustive life history by the physician.

Social Service During Hospital Care. What is the social worker's role within the hospital and before a clear-cut plan for discharge is set up? Somehow it seems to me that once a patient is admitted, and particularly where longer term, continued treatment is agreed upon, the patient may well fall into a void as far as social service is concerned. Social workers move on to become involved with new cases and may not hear much about the patient until months later when discharge is thought about.

This may have been all right when turnover in our hospitals was at a minimum, but I question whether it is a satisfactory situation today. More patients are leaving the hospitals and we know they are not all well when they leave. Has there been continuous work with the family during this period to correct those factors in the environment which may have contributed to hospitalization? Is it recognized that the patient, even while under treatment for his illness, might be able to work with the social worker, planning in the healthy area of his life? I think this can work out if there is professional respect between physician and social worker and sufficient clarity as to both their roles to enable them to work together for the patient's interest. For most patients discharge planning should start, if not at admission, at least as close to it as is psychiatrically sound. Relatives must be kept related to the patient's progress or lack of it. Many disciplines within the hospital can and should work directly with the patient without infringing on the medical responsibility of the physician, but at the same time with full knowledge and awareness of the hospital's goal for this particular patient. There are practical tangible things that families must do when a patient goes away or is preparing to come home. The wife may ask, "Should we move into a smaller house if my husband is to be away for six months or for years?" "Should I seek employment?" I think the hospital, through its social service department, has the responsibility to be close enough to these relatives to give them available and necessary information or to see that

it is made available to them through interested and informed community agencies. On continued treatment, then, there is a place for the social worker. It may not involve major responsibility for the patient, but it does mean an awareness of the patient's progress and constant availability to make the proper social work contribution whenever and wherever this is indicated.

Discharge. I have touched briefly on pretrial visit planning already, but I would like to speak to this point directly. Over the years hospitals have been criticized for what appears to outsiders as haphazard, careless discharge policies. Much of this criticism is unfounded, but this does not free us from examining our ways of working to see where we might be failing.

At one time the pet peeve of many outside the hospital was the impulsive discharge on visiting day which appeared to ignore planning for the patient already under way or failed to take into account that discharge may involve more than the patient's readiness. I do not think all these releases were bad, but I wonder how many readmissions spring from failure to properly assay the community's and the family's readiness to receive the patient back and to offer him a stable environment where he has a reasonable chance of adjusting successfully.

The answer to these complaints has quite often been a haughty "We must discharge when the patient can no longer benefit from hospitalization. We cannot wait for the perfect moment or for the slow wheels of welfare or other community agencies to start." "The community cannot dictate who comes and goes to the hospitals", and "The fault lies in the community's unwillingness to receive our patients back once they have maneuvered us into admitting them."

I do not believe the community wants to dictate hospital discharges, and I suspect that when the hospital takes the time to explain its reasoning, most communities are understanding and acceptant. But you do owe them that explanation! It is all right to have doubts as to a patient's chances for adjustment following release. It is not all right to base discharge planning solely on the patient's adjustment to the hospital with no knowledge of the factors he will have for him and against him when he leaves the hospital environment.

The social work department with its lines into the community should be prominent in drawing this picture for the staff which jointly must make these decisions.

After-Care. This is the area of our work which seems to be receiving the greatest amount of attention today. We attribute many things to the influence of new drugs, but I think we are safe in saying that they have played a prominent part in forcing us to think about what happens to the patient who no longer needs hospitalization or who can manage even marginally in the community following a stay in the hospital. Interest in this area is certainly interdisciplinary, and, as a well known comedian used to say, "Everybody wants to get into the act." Thus we find increased interest on the part of rehabilitation counsellors, public health nurses, welfare departments, and, what is probably most welcome, the private physician, who is more and more involving himself with ex-hospital patients. The out-patient clinics, many of whom have successfully avoided these patients for years, are being pressed to include them as recipients of their service. At this hospital you have had for a number of years your own follow-up clinics, and Western State is about to embark on a follow-up program supported by a federal grant which will include group therapy sessions prior to and after release in the patient's home community and a resident social worker in the Northern Virginia area to serve as liaison with community agencies on behalf of hospital patients.

In the area of after-care, I suppose the community really asks the impossible of us. In effect they say, "If you are going to release patients, it is up to you to see that they are supervised and helped or, in its most negative form, to see that they don't cause any trouble."

Our problem, then, boils down to the question as to whether we can develop a system where we can be comfortable about our released patients, a system that would give us a little more assurance as to the patient's later adjustment and less crossing of our fingers as we apprehensively release them without clearly defined plans for giving them the help they may require.

I think this is more possible than our current success would indicate. Undoubtedly we have to first reach the point where every readmission is not regarded as an index of failure, particularly if, when the patient was discharged, a plan for his placement in the community was carefully thought through rather than haphazardly backed into. I pose these questions for you: Where drugs are necessary for a patient, has a plan been worked out which is clear to the patient, his family, and the hospital as to how he will receive his drugs after the initial supply has been exhausted? Has the family physician, who once was interested in the patient, been invited to involve himself again in his after-care, with adequate knowledge of the course of his hospital treatment? Where some kind of continuing support, either psychological or financial, is indicated for a patient, have you succeeded in finding a community resource which will cover the patient's need? How many patients have been placed in foster homes, or have you managed to push aside such a program as being too expensive in time and money for only a small group of patients? When you do place patients in foster homes, is it a question of merely finding a place for them to live or is the placement viewed by the patient, his family, and the caretaker as a continuation of hospital treatment? Are you so conscious of the joy of decreasing patient loads that you rush patients into the community without supervision or help? Are you placing (I almost said "railroading") patients into poor nursing homes and other questionable facilities so that their second lot may not be any improvement over prolonged hospital stay.

Let me not give the impression that after-care is the exclusive responsibility of social service. It certainly is not. I do know, however, that if the social service program is weak, inadequate, and has a limited horizon, an after-care program will certainly fall down. A hospital should be able to count on the social worker to develop a network of community facilities, fully aware of the hospital's mission and ready to do their part in needed service to hospital patients where this is appropriate. This means social workers who think in terms of broad community planning and responsibility and it also means something as narrow as having a car available when the social worker needs to go outside the hospital walls. It means social workers who are imaginative, not stodgy, who are confident that their social work skills are needed if the hospital is doing a complete job. Along with this confidence goes a real respect for the contribution of everyone, from the gatekeeper to the superintendent, and a conviction that teamwork can be more than a cliche, bandied about by visiting lecturers.

Pre-Paid Medical Care....

Edited by
RICHARD J. ACKART, M.D.

Medicine and Blue Shield

The A.M.A. Clinical Meeting held in Washington, D. C., November 28 through December 1, may ultimately prove to have influenced the future of Blue Shield more profoundly than any other single event in the history of the Plans. A resolution adopted by the House of Delegates specifically committed the A.M.A. to take the initiative in organizing and implementing a program of effective action to stimulate ". . . maximum development of the voluntary non-profit prepayment concept to provide health care for the American people."

To establish the national organization required to accomplish this goal, the A.M.A. resolution calls for participation by the American Hospital Association, the Blue Cross Association, the National Association of Blue Shield Plans, and the American Medical Association in developing a basis for joint action aimed at overcoming the obstacles standing in the way of extending the scope of Blue Cross and Blue Shield to meet maximum public need.

The text of the A.M.A. resolution on prepayment Plan development follows:

> "Whereas, It has been widely recognized that voluntary health insurance is the primary alternative to a compulsory governmental program: and
>
> "Whereas, The public has shown its confidence in this voluntary system; and
>
> "Whereas, Current social, political and economic developments compel a new and revitalized effort to make voluntary health insurance successful; and
>
> "Whereas, The American Medical Association has consistently pledged itself to make available the highest type of medical care; therefore be it
>
> "*Resolved,* That the House of Delegates direct the Board of Trustees and the Council on Medical Service to assume immediately the leadership in consolidating the efforts of the American Medical Association with those of the National Association of Blue Shield Plans, the American Hospital Association and the Blue Cross Association into maximum development of the voluntary non-profit prepayment concept to provide health care for the American people; and be it further
>
> "*Resolved,* That similar leadership be undertaken to coordinate the efforts of private insurance carriers through conference with their national organizations; and be it further
>
> "*Resolved,* That, where feasible, efforts be made to cooperate with representatives of other types of medical care plans, other professional groups, and representatives of industry, labor and the public at large."

Commenting editorially on this resolution, the Washington (D.C.) *Evening Star* observed that the physicians who ". . . stimulated the A.M.A. action and who are working toward its fulfillment, harbor no illusions that any single new plan can be developed or even proposed which would satisfy all the various medical care needs which currently are being discussed. But they do believe that drastic improvements can be made in existing voluntary Blue Cross and Blue Shield plans, in coordination later with commercial prepayment programs, which would decrease the need for government interven-

tion; and this is the goal toward which they are working."

Concluding, The *Evening Star* observed that "These efforts . . . can produce nothing but good. The medical voluntary prepayment movement since World War II has made phenomenal advances, and that fact too often is obscured by criticism of its deficiencies. What is important now is that these shortcomings are being given the attention they deserve. . . ."

In a report accepted by the House of Delegates of the A.M.A., the following observations concerning the present and the future of Blue Shield were made:

"The medically sponsored Blue Shield Plans, which now provide coverage for medical care benefits to more than 45 million persons, represent the most convincing evidence available of medicine's capacity to meet the nation's health needs through private initiative. Indeed, through the physician sponsored Blue Shield program, our profession has demonstrated its capacity to provide both the leadership and enlightenment necessary to solve the economic problem of providing health care without sacrificing the individual and professional freedoms on which high quality care depends."

"It is not possible to discuss the future of Blue Shield without reference to the principal resource the Blue Shield Plans have available to apply in shaping their future. This resource is the medical profession which has been responsible for the organization of Blue Shield. The doctors of the nation alone hold the key to Blue Shield's future, and their leadership, or lack of it, will inevitably determine whether the Plans are prepared to respond to the opportunities that lie ahead."

Here in Virginia The Medical Society of Virginia has accepted the responsibility of leading Blue Shield toward even more effective service to the people of the State. In this effort the Society will need the suggestions and the cooperation of each and everyone of its members.

Aids Mild Diabetics

A drug designed to fight mental depressions, imipramine hydrochloride, has been found to benefit persons with mild diabetes. Results obtained in five patients are reported by four Cincinnati physicians in a preliminary communication in the October 1st Journal of the American Medical Association.

The effect of the drug was noted when it was prescribed for several mild diabetics who were also depressed. Administration of the drug was followed by a decrease in the amount of sugar excreted. A high level of sugar excretion is a symptom of diabetes, which is a disorder that prevents the body from utilizing sugar normally.

Each subject's response to the drug and to discontinuance of it was tested several times. However, it was stressed that their findings were not conclusive because of the small number of patients studied.

Further investigation is warranted because it is important to study any agent that demonstrates an effect on the clinical course of diabetes.

The authors are Drs. Stanley M. Kaplan, James W. Maas, John M. Pixley, and W. Donald Ross, who was associated with the University of Cincinnati College of Medicine and the Cincinnati General Hospital.

Current Currents

WHITE HOUSE CONFERENCE: The big news, as this issue goes to press, is the White House Conference on Aging which has just concluded with the recommendation for a Social Security health care plan similar to the one favored by President Kennedy. The Income Maintenance Section, which dealt with this issue, voted in favor of the recommendation 170 to 99. A minority report was released which declared that incorporating medical insurance under Title II of the Social Security Act "would interfere with the physician-patient relationship; that it is unnecessary because of the potential growth of voluntary insurance, and that all needy aged can be cared for by public assistance through the recently enacted Federal program of health care for the low income aged." The minority report pointed out that the majority report was not in accord with the official expression of the majority of state conferences on aging.

Most observers agree that the Kennedy administration will use the report of the Income Maintenance Section to further the compulsory social security approach to health care of the aged, notwithstanding the results of the state conferences or the minority report. AMA points out that while the results of the Conference were not totally unexpected, they do not presage certain passage of the compulsory social security approach to health care of the aged in the 87th Congress.

KENNEDY BILL: The new so-called Kennedy bill will most likely have been introduced by the time you read this issue of Current Currents. Advance reports indicate that it will be limited to hospital and nursing home care. It will probably not include physicians. The bill is expected to cover some 14 million persons. It will provide for anyone who receives OASDI benefits, including 2½ million persons under 65, notably children of beneficiaries.

HR 10: Senator Eugene J. Keogh (D., N.Y.), has introduced HR 10, which like its predecessor of the 86th Congress, provides a retirement program for the self-employed. A similar bill, S.59, has been introduced in the Senate by Florida Democrat George A. Smathers.

HR 10 would amend the pension plan provisions of the Internal Revenue Code by adding a two step requirement for all plans and special requirements for the self-employed. If an employer has three or more workers, they must be covered and have a vested interest in the plan. The self-employed would be able to deduct ten percent of income or $2,500, whichever is smaller, from the self-employment earnings of the

business for which the plan would be established. No benefits would be paid before age 59½, unless there is death or disability, but would have to begin at age 71.

PHYSICIAN CONTRIBUTION TO FREE CARE: AMA has reported that United States physicians are annually providing free medical care amounting to 658 million dollars. These figures were obtained from a survey conducted by the magazine NEW MEDICAL MATERIA. It was brought out that more than 98 percent of our physicians give free medical care, and that 60 percent contribute 10 percent or more of their working hours to this free service.

NEW BOOKLET: Members will wish to make good use of a new illustrated booklet just published by the American Medical Association. Its title is "The Cost of Medical Care" and it contains information everyone should have. Did you know, for example, that the average American spends 6¢ of his consumer dollar for health? This compares with 27¢ for housing, 22¢ for food, 10¢ for clothing, 12¢ for travel, 6¢ for recreation, 5¢ for tobacco and liquor and 12¢ for all other items.

The booklet also reports the spectacular progress made by medical science during the last 20 years. A child born today can expect to live 10 years longer than one born 20 years ago; new antibiotic drugs prevent pneumonia that used to kill one in every three or four persons it attacked. Low cost vaccines now offer protection against many serious illnesses; the danger of infection through surgery has been greatly reduced; today's average stay in the hospital for an appendectomy is four days, compared with fourteen days 20 years ago.

The booklet reports that physicians average sixty hours of work each week and see more patients than 20 years ago. Their fees, however, have gone up much less than the average price of all "consumer goods and services".

Copies of this booklet may be obtained by contacting the State Office of The Medical Society of Virginia.

A SPECIAL SALUTE: Dr. Vincent W. Archer, Past President of The Medical Society of Virginia and currently a member of the AMA House of Delegates, has been designated the recipient of the Gold Medal of the American College of Radiology. The presentation will be made during special ceremonies at the Drake Hotel, Chicago, on February 10. The Medal is being awarded "for distinguished and extraordinary service to the American College of Radiology and the profession for which it stands".

DID YOU KNOW? According to Insurance Economics Surveys, the average American consults his physician approximately five times a year. This American can also choose between some 1,200 organizations currently providing health insurance for the public.

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Sylvatic Rabies Control in Virginia

Every year hundreds of persons in Virginia receive anti-rabies treatment because of contact with or exposure to animals which have been proved to be rabid or which have escaped capture and there is doubt as to freedom from infection. In many instances the contact or exposure has not been such that infection of the individual has taken place. However, it is a fact that once developed, there is no treatment for rabies; prevention is the necessary measure. It happens often that the animal is not available for examination or the history is not sufficiently clear to determine the intimacy of contact or exposure. In such cases there is but one decision—treat the human being, do not take chances with his life.

Rabies in animals is a continuing problem in Virginia and involves particularly the entire western border of the State and, to a lesser degree, its northern border. While there has been an annual decrease in the total number of positive animals during the past five years, the incidence of rabies in wildlife still causes concern.

Table I

Year	Total	Heads Positive			
		In Wildlife		In Dogs	
		No.	%	No.	%
1955	373	208	55.8	101	27.1
1956	299	142	47.5	64	21.4
1957	318	232	73.0	21	6.6
1958	252	153	60.7	29	11.5
1959	168	102	60.7	25	14.9

Table I shows the number of heads positive for rabies by year for the past five years together with the number and percentage referable to wildlife and to dogs each of these years.

Successful dog vaccination programs undoubtedly have played the most important role in reducing the incidence of rabies in the canine population. A build-up of populations, combined with a high natural susceptibility of foxes to the disease, plays a part in the rise in incidence of rabies among animals in wildlife. This changing picture is nationwide as is evidenced by the fact that during the past ten years (1948-58) the number of reported cases of rabies in wild animals has doubled.

Although the number of positive dog heads may approach closely the actual number of cases in the canine population, this is not true in other species. In wildlife it is the animal that comes to the attention of man—the suspicious animal, the one which is acting abnormally, or the attacking animal—which is destroyed and examined. Those sick and dying in their natural habitat are not discovered. It is estimated that only 1% of the actual number of cases of rabies which occur in predatory animals in the forests are brought to laboratories for examination.

The occurrence of rabies in his domestic livestock is of vital concern to the farmer. During the past five years (1955-59) 274 farm animals have been diagnosed as infected with rabies. One hundred and fifty of these, 54.7%, have been in the 18 counties west of Roanoke. Here again, the number of positive heads reported is a poor indication of the actual number of cases. The cow's head is large and difficult to handle. If several animals present the same chain of symptoms, the head of one which has died is examined and it is presumed that the others were infected with the same disease. A conservative estimate would be that for every head of a horse, cow, or sheep which is examined and found positive, four other cases exist but remain unexamined and unreported for various reasons. Furthermore, unless there has been a human exposure, the veterinarian's clinical diagnosis (in cases seen by a veteri-

narian) is usually accepted by the owner and the animal is destroyed before human exposure can take place.

Sylvatic rabies epizootics seem to follow a geographic pattern: the disease moves into a county from an adjacent county where an epizootic has been prevailing. There appears to be a population threshold which, when exceeded, provides a sufficient number of animals to sustain the virus and an epizootic results. There may be a yet undiscovered synergistic action between rabies and another disease and the susceptibility to rabies of a certain animal may be affected by the presence of this second disease. Conceivably, the season of the year or the temperature may influence the range of the susceptible animals or may effect their food supplies. The virulence of the virus may play a part in determining the final population necessary for the development of an epizootic state. While the flexibility and intangibility of this population threshold are recognized, there are indications that such a threshold exists.

Following the occurrence of an epizootic of rabies in a county, there is a period during which few cases are encountered. There is no clear-cut reason for this sudden drop in cases but we believe that reduction of the susceptible population is the chief cause. The disease is a fatal one and kills out those animals that acquire it. It may be that the entire susceptible population does not meet the virus because, before this can happen, it is carried out of the area by means of one of the factors mentioned above. Reports show that year after year sylvatic rabies moves from county to county in southwestern Virginia.

Trapping of predatory animals in areas where there are indications that their populations are high, has demonstrated that the spread of rabies can be controlled in wildlife.

The General Assembly of 1954, recognizing the need for control of rabies, adopted a section (29-213.1) providing that "whenever the State Health Commissioner is informed that an outbreak of rabies has occurred in a county or city, he may, after consulting with the Commissioner of Agriculture and Immigration and the Executive Director of the Commission of Game and Inland Fisheries, adopt a regulation declaring the existence of rabies in such a county or city and containing such requirements as are hereinafter set forth. Such regulations shall be prominently displayed throughout the county or city and shall be published therein by signs or otherwise call attention of the public to the existence of such an outbreak."

Under provisions of the same General Assembly, the Commission of Game and Inland Fisheries was directed to "employ and make available to local governing bodies on request, a person skilled in the control of wild animals capable of spreading rabies."

The procedure has been for the State Commissioner of Health, on hearing of an increase in incidence of rabies in wild animals in any area, to request the Executive Director of the Commission of Game and Inland Fisheries to institute measures to trap predatory animals in that area. This has been followed by consultation on the part of the "person skilled in the control of wild animals capable of spreading rabies" with the Board of Supervisors of such a county and an offer by him to train individuals they might designate in the art of trapping and to purchase the needed traps at the expense of the county. It is needless to say that persons trained in such a way are not as skillful as those who are constantly trapping. Another factor has been that initiation of such control has come from outside the county.

In June, 1960, the Public Health Veterinarian proposed to the Commissioner of Health that full-time trappers be employed and that these men be made available to any area upon request of the governing body of the area. These trappers would function in the area until a wildlife census, conducted by their supervisor, indicated that the number of animals concerned was likely to be below the population necessary to sustain

rabies in such animals. This would be confirmed by a reduction in the number of rabies cases reported.

The use of full-time trappers has been carried on in several States. The proposal for their use in Virginia is slightly different. In other States the trappers ordinarily go into an area *after* the epizootic has developed to prevent further spread among wildlife and to reduce the risk of exposure of the livestock of the area. In Virginia the Health Director of a county would note that rabies in wildlife has prevailed in an adjoining county. He would then report this fact to his Board of Supervisors and would urge them to request that trappers be sent in to reduce the population of the predatory animals of the county *before* the introduction of rabies therein. This would be a control measure to prevent the establishment of rabies within the county and thereby prevent danger of exposure of humans and loss of livestock.

The Commissioner of Health requested a meeting with the Commissioner of Agriculture and the Executive Director of the Commission of Game and Inland Fisheries. The Public Health Veterinarian of the Department of Health, the State Veterinarian of the Department of Agriculture, and the Assistant District Agent of the U. S. Fish and Wildlife Service, Predator and Rodent Control Branch, were also present. This program was unanimously adopted and each department agreed to furnish one-fourth of the cost of carrying out the program up to a certain sum, to present the program to the Governor for his approval, and to request him to make available one-fourth of the cost of the program up to a certain sum. The Governor looked favorably on the program and agreed to make the requested sum available.

The details of operation have been worked out. The position of Predator Trapper has been defined and set up in the State Personnel Office. The funds are being placed with the State Treasurer in such a manner that they can be drawn upon on authorization of the State Department of Health. The administration of the program is under the joint supervision of the Public Health Veterinarian and the Assistant District Agent, U. S. Fish and Wildlife Service, Predator and Rodent Control Branch. The predator trappers are considered employees of the State Department of Health while the Mammal Control Supervisor, under whom they work, is an employee of the Virginia Commission of Game and Inland Fisheries.

This is a beautiful example of the recognition by three of the Departments of the State of Virginia of the need to protect the lives of its inhabitants and the economy of its citizens and of their willingness to band together to work in a common cause.

This program becomes effective immediately. On being informed by the local Health Director of the imminence of a possible rabies outbreak within the county, the Board of Supervisors should request the Public Health Veterinarian, sending a copy to the Regional Health Director, to proceed with the above-outlined control measures. Because of previously described epidemiologic patterns, counties in southwestern Virginia have been designated priority areas. It is in these counties that the Health Directors are now urging their Boards of Supervisors to request initiation of this program. Two of these counties have already sent requests from their Boards of Supervisors for the predator trappers to work within their confines.

Monthly Report of Bureau of Communicable Disease Control

	Dec. 1960	Dec. 1959	Jan.-Dec. 1960	Jan.-Dec. 1959
Brucellosis	0	0	33	27
Diphtheria	3	2	40	13
Hepatitis (infectious)	81	42	844	503
Measles	967	301	7596	15,021
Meningococcal Infections	6	10	60	88
Aseptic Meningitis	3	—	45	—
Poliomyelitis	11	6	57	290
Rabies (In Animals)	23	6	226	168
Rocky Mt. Spotted Fever	0	0	39	38
Streptococcal Infects.	538	529	6074	8450
Tularemia	5	2	38	20
Typhoid	0	2	22	27

Editorial....

War on the Staphylococcus

RECENT SURGICAL LITERATURE contains many reports of an increasing incidence of postoperative wound infection, due chiefly to staphylococcus aureus, coagulase positive. Epidemiologic explanations, some of which are based on careful bacteriologic studies and phage typing, indicate the complex nature of the problem, but fail to show any single common denominator, unless it be an increasing virulence of the organism in question. Contrary conclusions have sometimes been drawn at different institutions; in many instances these diverse opinions are entirely valid and result from environmental and personnel problems peculiar to a particular hospital. The only real and lasting protection lies in shutting off as completely as possible all avenues of bacterial contamination, while at the same time reemphasizing the proper care of the wound.

The experience of a single surgeon and his team performing all operations in the same room may prove educational. Over a two and a half year period, between 1957 and 1959, six fatal staphylococcus complications were encountered. In all six cases positive blood cultures were obtained. Three of these occurred in the year 1959. The grief and devastating effect on morale can scarcely be imagined. In five of the six cases, cardiac operations were performed, three of which were open heart procedures. The sixth operation consisted of a lobectomy for bronchiectasis. The pertinent facts concerning these cases are as follows. An anterior mediastinal hematoma undoubtedly provided a nidus for infection in one case of congenital aortic stenosis and rupture of the aortotomy occurred. In another patient, a space remaining after resection of a large ventricular aneurism allowed a collection of fluid, later shown to be infected, and rupture of the suture line followed. A ventriculotomy incision became infected in a third patient. The locus feeding a staphylococcus septicemia was not definitely established following repair of an interventricular septal defect in a patient upon whom autopsy was not performed. Staphylococcus wound infection, empyema, osteomyelitis of the sternum and toxic nephritis occurred in one patient following decortication for constrictive pericarditis. A massive wound infection and empyema, eventuating in contralateral staphylococcus pneumonia, occurred after the lobectomy. Although staphylococcus infection is not confined to any branch of surgery, it is especially hazardous in relation to cardiovascular operations.

A description of how this situation was brought under control will allow me to emphasize specific measures in the prophylaxis of postoperative staphylococcus infections. Many important features in the overall control of infection such as sterilization of routine and special equipment, general housekeeping and isolation of infected patients will be omitted

from this discussion, and only those features mentioned over which we, as surgeons, were able to exercise immediate control.

A consideration of certain unfavorable environmental conditions which might have contributed to this grievous experience focused our attention on the following:

The possibilities of heavy airborne contamination were great. Always a large number of personnel, at times totaling 15, either professional or technical, participated in or supported the open heart procedures. In a volumetric sense, because of the low ceiling, the room is small. Conversation at times was excessive. The operating room is located adjacent to a disposal room used for both clean and septic waste materials and across the hall from a busy ENT operating room. It was frequently necessary for an anesthesiologist in a supervisory capacity to float between the two operating rooms. Partly because of a centralization of supplies outside the operating room, and partly owing to legitimate activity, traffic in and out of the room has at times been alarmingly heavy. The geometry of the operating suite is such that intimate contact with the outside world is constantly renewed.

As much as possible was done to restrict sharply this traffic. Since truly effective control of traffic and significant decongestion of personnel and equipment remain a dream until more appropriate and commodious quarters are provided, and until more uniform measures are established, the decision was taken to install continuous, direct ultraviolet irradiation. The method used so successfully by Hart at Duke University Hospital was closely followed. The results seem to have justified this decision, although no illusion exists that we have acquired a panacea for all our ills. Admittedly, the donning of protective hood, glasses and eyeshield constitutes a mild nuisance to the surgeon, but these measures also serve as a reminder of the grave responsibility entrusted to him in the preservation of an aseptic environment. Limited bacteriologic studies showed an impressive reduction in bacterial fallout. Perhaps without justification I continue to harbor some apprehension about the possible ill effects of 2600 Angstrom radiation upon the tissues of the patient. Even a shallow film of saline will protect, but this has not been continuously achieved in the case of the exposed heart. Ultraviolet irradiation was also installed in the contaminated disposal room nearby, and the assurance of air sterility here was most comforting.

A recheck of the standards used for sterilization of the pump oxygenator by ethylene oxide failed to disclose any breaks in technique, and the extracorporeal circuit could not be incriminated, except possibly in one instance. Nevertheless, the conditions of assembly and transport of equipment to the operating room appeared to be suboptimal.

Constant vigilance and personal discipline must remain the key factors in the never-ending battle against the staphylococcus. All personnel with respiratory infections have been firmly excluded from the operating room. The massive inoculation of bacteria which can occur by this

route has been documented by others. In one of the fatal cases cited above a student nurse with a respiratory infection assisted at the operating table. Her infectious condition was only discovered when she voluntarily departed because of severe nasopharyngeal congestion.

Other measures adopted to reduce airborne infection included double masking and the application of clean booties over special operating room shoes. The wearing of booties appears to be the only possible solution to the universal contamination of shoes. The masking of the patient was seldom well carried out and attention has been directed to this matter. The problem of nasal carriers is too complicated and too poorly understood for discussion here. We would certainly discourage the dressing of infected wounds by any surgeon before coming to the operating room.

Mindful of the potentiality for infection tracking in along phlebotomy catheters, we have insisted on rigid aseptic precautions for the insertion of these and have withdrawn them as soon as practical following surgery.

The patient's own skin as a source of contamination has been emphasized and deemphasized by various authors. We consider the matter of sufficient importance to initiate preparation of the skin with a hexachlorophene soap at least forty-eight hours before operation. Soap continuously concentrates in suds the bacteria from the deep layers of the skin even after many minutes of scrubbing. This is a matter of great practical importance in the preparation of the surgeon's hands and arms as well as of the patient's skin. If not adequately removed by thorough rinsing, a residue of bacterial contamination remains.

We do not share the opinion which has been too frequently expressed that the hands of surgeons and nurses do not constitute an epidemiologic factor in postoperative wound infection. The importance of this source undoubtedly varies from month to month and from person to person. In a carefully conducted study Haupt cultured staphylococci from 90% of surgeons' gloves and in 14% the organisms were coagulase positive. At the end of several hours in a poorly air conditioned room, we have often found the surgeon's previously gloved hands heavily contaminated, no matter how thorough the initial scrub. The problem is magnified during the summer months because of sweating. Sweating through the sleeves of operating room apparel signals a gross break in technique which is difficult to control other than by improved air conditioning. During a long operative procedure we have encouraged a second scrub and change of mask and gown. Each surgeon should conscientiously care for the skin of his hands. The resident bacterial population in the deeper layers of the skin may change from time to time. There is less chance of invasion by pathogens in the absence of any breaks in the integument. A hexachlorophene soap or detergent should be used daily at home as well as at work. In my own experience, Gamophen soap has proved extremely kind to the skin.

An educational campaign has yielded rewarding results in reducing the

number of breaks in the glove barrier. This campaign has included an insistence upon properly fitting gloves. The use of small arterial needles held between the fingers had led to an alarming increase in the number of punctured gloves, both among surgeons and nurses. A new method of grasping even the smallest needles has been adopted. If the needle is held upside down at the junction of suture with shaft, the point of the needle is displayed well away from the fingertips and the needleholder can be easily applied.

We have found the battery-powered Weck hole detector a useful instrument. However, this method requires the surgeon to step aside and voluntarily test his gloves by dipping in a basin. We have modified the instrument to incorporate a buzzer signal. A basin connected to the circuit provides the scrub nurse with saline into which she dips bimanually each time a suture is passed. More recently the surgeons at the table have been conveniently included in this detector system, the details of which will be published elsewhere. Thus, prompt recognition of glove holes has been achieved. Until Underwriter's approval has been obtained, this system has been restricted to cases in which nonflammable anesthetics are used. A striking improvement has resulted from this battle against breaks in the glove barrier, and holes occur much less frequently.

Renewed attention has been paid certain matters of wound toilet. Thorough irrigation with saline of the pericardial and pleural cavities and the mediastinal and subcutaneous spaces has served to reduce the bacterial contamination of these areas. Among the open heart cases there have been occasional patients with a bleeding tendency at the time of closure. A special effort has been made to eliminate dead space. Appropriate tube drainage of the pericardium and anterior hilar region has aided in the prevention of sanguineous collections in the anterior mediastinum.

The results obtained by this campaign against the staphylococcus have more than justified the effort expended. Among the cases performed during the thirteen months since the adoption of these measures and among the cases protected by these measures, we have not experienced any serious staphylococcus infections. Only three small superficial, infected hematomas were observed.

The everpresent danger exists that success will lead to a relaxation of vigilance. The "surgical conscience" should not yield.

L.H.B.

News Notes . . . .

New Members.

Since the list published in the January issue of the Monthly, the following new members have been admitted into The Medical Society of Virginia:

Charles C. Ashby, M.D., Dinwiddie
Bruce Cramer Banning, M.D., Arlington
Rogelio Menendez Borrell, M.D., Williamsburg
Robert G. Bullock, M.D., Arlington
Max Carlton Feinman, M.D., Lynchburg
Albert Andrew Fratrick, M.D., Appomattox
Herbert Claiborne Jones, Jr., M.D., Charlottesville
Reginald Paul McManus, M.D., Arlington
John G. Novak, M.D., Lynchburg
Ramon B. Perez, M.D., Wise

Local Committee on Arrangements.

For the Annual Meeting of The Medical Society of Virginia to be held in Richmond, October 8-11, 1961, the following committee on arrangements has been appointed:

Chairman—Dr. M. M. Pinckney
Hotels and Halls—Dr. William H. Harris
Scientific Exhibits—Dr. Frank M. Blanton
Technical Exhibits—Dr. Daniel D. Talley, III
Press and Publicity—Dr. William H. Higgins, Jr.
TV and Motion Pictures—Dr. Elam C. Toone, Jr.
Golf—Dr. A. L. Herring, Jr.
Entertainment—Dr. Thomas W. Murrell, Jr.
Auxiliary—Mrs. Wyndham B. Blanton, Jr.

The State Board of Medical Examiners

Held its winter meeting on November 28th at the Hotel Richmond, Richmond, with all sixteen members present. Dr. Charles J. Irvin, Roanoke, was present as a new member of the Board. The Reciprocity Committee recommended licensure of 49 doctors by endorsement of credentials from other states (reciprocity). These doctors held licensure in sixteen other states or from The National Board of Medical Examiners. These were all accepted by the Board.

The examinations were given during the next four days. The grading results of these examinations were published a few weeks after the Board meeting. These were 107 doctors who passed the examinations and received their license certificates. Of this number there were only three who were graduates of American medical schools and 104 graduates of foreign medical schools.

Dr. Greiner Honored.

Dr. A. B. Greiner, Rural Retreat, has been cited for teaching the adult Bible class of Grace Lutheran Church for fifty years. He was given a doctor's satchel containing fifty one-dollar bills. Dr. Greiner is eighty-six years of age and still practicing. He has been at Rural Retreat for fifty-seven years.

Dr. Mack I. Shanholtz,

Richmond, is the new president of the Association of State and Territorial Health Officers.

Symposium on Diabetes Mellitus.

A one-day symposium on Recent Advances in Diabetes Mellitus will be held at Georgetown University Medical Center, Washington, D. C., on March 8th. The following program will be presented: The Treatment of Diabetic Acidosis by Dr. James B. Field, Senior Investigator, National Institutes of Health, Bethesda; Vascular Disease in the Diabetic Patient by Dr. Charles A. Hufnagel, Professor of Experimental Surgery, Georgetown University; Ocular Manifestations of Diabetes by Dr. Henry Keen, Investigator, National Institutes of Health; Diabetic Neuropathy by Dr. Malcolm M.

Martin, Assistant Professor of Medicine, Georgetown University; Disordered Lipid Metabolism in Diabetes by Dr. Robert H. Williams, Professor of Medicine, University of Washington, Seattle; Hypolipemic Agents Used in Diabetic Patients by Dr. Edgar A. Haunz, Associate Professor of Medicine, University of North Dakota; Podiatric Care of the Diabetic by Dr. Edward L. Tarara, Podiatrist, Mayo Clinic, Rochester; Insulin Hypoglycemia by Dr. Sidney A. Tyroler, Instructor in Medicine, Georgetown University; The Treatment of Diabetes with Insulin by Dr. Haunz; The Use of the Sulfonylurea Drugs by Dr. L. Harvey Hamff, Clinical Associate Professor of Medicine, Emory University, Atlanta; Phenformin in Diabetic Management by Dr. Robert H. Williams; Dietary Treatment of Obese Diabetics by Dr. DeWitt E. DeLawter, Clinical Assistant Professor of Medicine, Georgetown University. A panel discussion and answer to all questions will be held in the afternoon.

This symposium is sponsored in part by a grant from Charles Pfizer and Company and all physicians are invited. There will be no registration fee.

Fairfax Hospital Staff.

Dr. J. D. Zylman, Arlington, has been elected president of the Fairfax County Hospital medical staff. Dr. Thomas B. McCord, Fairfax, is vice president; Dr. John C. Bauer, Arlington, secretary-treasurer; and Drs. Joseph Beinstein, Arlington, and Frances Ayres, Falls Church, members-at-large of the executive committee.

Equipment for Sale.

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Situations Wanted.

E.E.N.T. man, preceptorship trained, good refractionist, desired permanent association with ophthalmologist and/or otolaryngologist. Reply to Box 950, care Virginia Medical Monthly, 4205 Dover Road, Richmond 21, Virginia. (*Adv.*)

Obituaries . . . .

Dr. John Mason Williams,

Prominent physician of Petersburg, died January 4th at the age of seventy-nine. He was a native of Prince George County and had practiced in Petersburg for more than fifty-five years. Dr. Williams graduated from the University College of Medicine in 1904 and practiced in Disputanta for several years. He served as surgeon for the Norfolk and Western Railroad.

Dr. Williams had been a member of The Medical Society of Virginia for fifty-six years and was made a Life Member in 1954.

His wife, three daughters and two sons survive him.

Dr. William Joshua Sturgis,

Beloved physician of Nassawadox, died December 20th following a short illness. He was eighty-two years of age and a graduate of the Medical College of Virginia in 1903. Dr. Sturgis had been a member of The Medical Society of Virginia since 1909.

The following resolutions were passed by the members of the Northampton-Accomac Memorial Hospital and the Northampton County Medical Society:

The people of The Eastern Shore of Virginia were greatly saddened on December 20, 1960, by the death of Dr. William J. Sturgis, Sr., of Nassawadox, Virginia. Dr. Sturgis was born in 1878. His college work was done at The College of William and Mary, and in 1903 he was graduated in medicine from The Medical College of Virginia. Returning to his home community, he began the practice of his profession.

He soon realized the extreme need for a community hospital where those who were sick and in distress could obtain the best care. While there were many others who gave of their time and talent, it was largely through his effort that on August 17, 1928, The Northampton-Accomack Memorial Hospital was formally opened. Throughout the remaining years of his life, his supreme interest was in the continued progress and improvement of this hospital in order that it might continue to be better equipped to serve the people of The Eastern Shore of Virginia.

He was a member of The Medical Society of Virginia and The American Medical Association; medical officer in The United States Public Health Service; member of The Northampton County Medical Society; and for a number of years served as Chairman of The Board of Trustees of The Northampton-Accomack Memorial Hospital. At a meeting of The Northampton Ruritans, on his 79th birthday, he was selected as the "Northampton Citizen of the Year". He was a member of the Red Bank Baptist Church, serving for many years as a member of The Board of Deacons.

He is survived by his widow, Mrs. Mary Sturgis; a daughter, Mrs. Douglas H. Crockett; and two sons, Dr. William J. Sturgis, Jr., and Mr. John Edward Sturgis. His older son, Dr. William J. Sturgis, Jr., is a member of the hospital surgical staff. He leaves also a sister, Miss Addie Sturgis.

The members of the hospital staff submit this tribute to his memory, realizing that the measure of a life is not its duration, but its donation. He will be greatly missed. Yet, his works will live after him to bless humanity.

Dr. W. T. Green, Jr.
Dr. J. Fred Edmunds
Committee

Whereas: God, in His infinite wisdom, has taken unto Himself His servant, our fellow physician, Dr. William J. Sturgis, Sr., and

Whereas: We recall with humility the unselfish motives which characterized his medical practice and devotion to the welfare of the entire Eastern Shore community, and

Whereas: We wish to honor his memory, therefore

Be It Resolved: That we bow in humble submission to the will of the Almighty, that we strive to emulate his example, and that we cause this expression of our regard to be spread upon the permanent records of the Northampton County Medical Society, of The Medical Society of Virginia, and that a copy be sent to his bereaved family.

John R. Hamilton
H. L. Denoon, Jr.
W. Carey Henderson, *Chairman*

Dr. Greenville Ramsey Berkeley,

Well known physician of Norfolk, died December 7th. He was seventy-seven years of age and received his medical degree from the Jefferson Medical College in 1960. He located in Norfolk the following year. Dr. Berkeley was formerly medical examiner and city jail physician. He retired from active practice in 1954, as a result of a fractured pelvis received the year before which proved a severe handicap to him.

Dr. Berkeley had been a member of The Medical Society of Virginia since 1912.

He is survived by a son and a daughter.

Dr. Thomas Nathaniel Spessard,

Norfolk neuro-psychiatrist, died December 14th. He was fifty-seven years of age and graduated from the Medical College of Virginia in 1927. Dr. Spessard was a captain in the U. S. Navy Reserve Medical Corps. He had been a member of The Medical Society of Virginia for thirty-one years.

His wife and two daughters survive him.

Dr. Thomas Edward Jones,

Charlottesville, died December 19th, at the age of seventy-five. He was a graduate in medicine from the University of Virginia in 1909. Before he came to Charlottesville, Dr. Jones practiced in Sioux Falls, South Dakota, and Lynchburg. He had been in Charlottesville for twenty years. Dr. Jones was a member of The Medical Society of Virginia, having joined in 1938.

He is survived by two daughters and one son.

Dr. James Terrell May, Jr.

Norfolk, died December 11th, death being due to asphyxiation during a fire in his apartment. He was forty-one years of age and a graduate of the Medical College of Virginia in 1945. Dr. May was a member of The Medical Society of Virginia.

He is survived by his wife, two daughters and four sons.

does the bowel take kindly to no-bulk diets?

The bowel, designed to operate best under the stimulus of a bolus of waste, is seldom at rest under normal conditions. But the new bulkless liquid diets which have taken the country by storm, although they may be a useful road to weight loss, may also lead to constipation or bowel irregularities.

Metamucil adds a soft, bland bulk to the bowel contents to stimulate normal peristalsis and also retain water within the stools to keep them soft and easy to pass. Thus Metamucil, with an adequate water intake, will avert or correct constipation in the dieting patient. Metamucil also promotes regularity through "smoothage" in all types of constipation.

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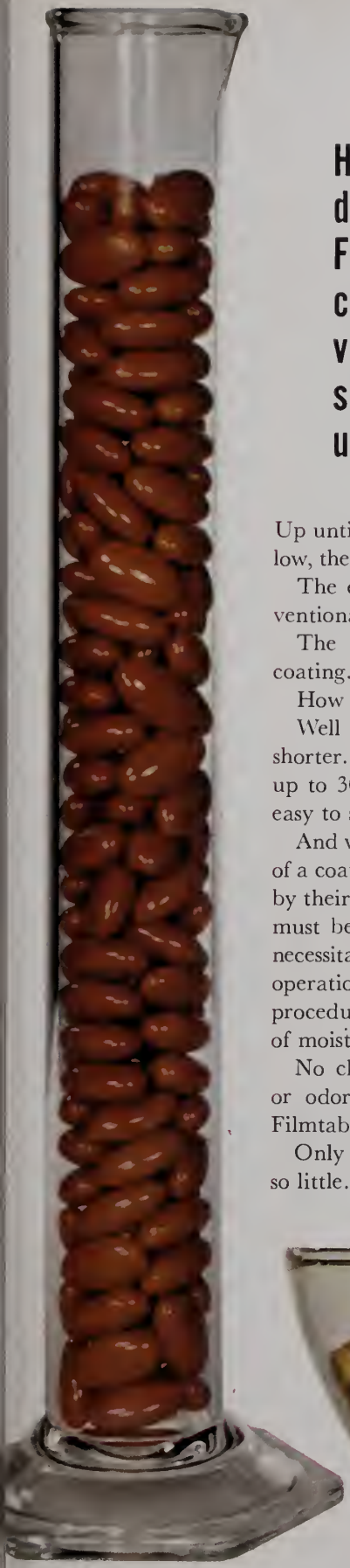

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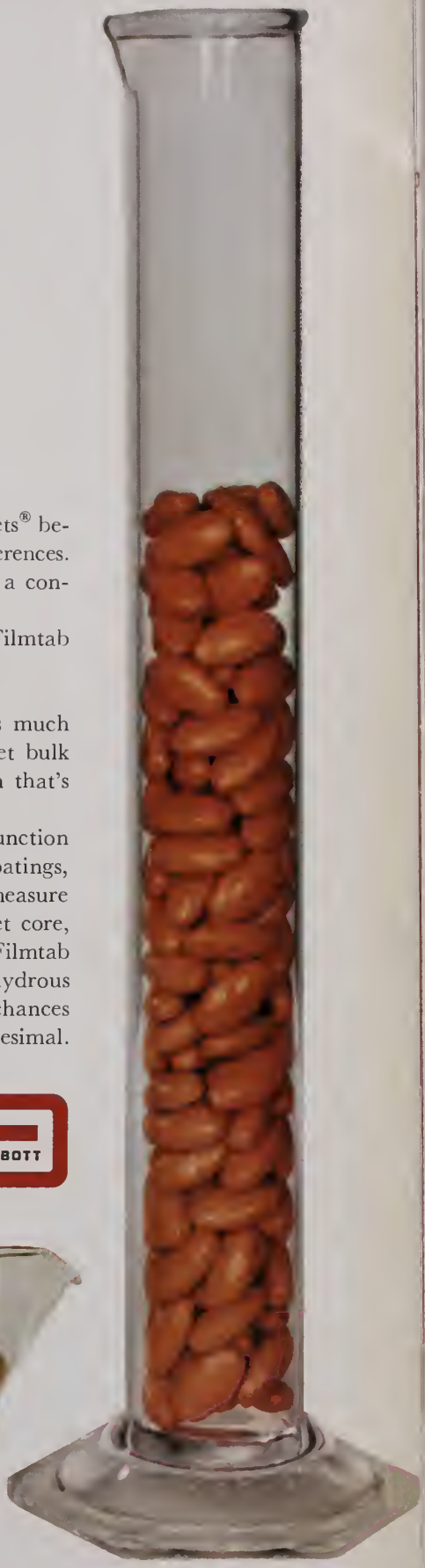

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Vitamin D	(1000 units) 25 mcg.
Thiamine Mononitrate (B_1)	2 mg.
Riboflavin (B_2)	2 mg.
Nicotinamide	20 mg.
Pyridoxine Hydrochloride	0.5 mg.
Cobalamin (Vitamin B_{12})	2 mcg.
Calcium Pantothenate	5 mg.
Ascorbic Acid (C)	50 mg.
Iron (as sulfate)	10 mg.
Copper (as sulfate)	0.15 mg.
Iodine (as calcium iodate)	0.1 mg.
Manganese (as sulfate)	0.05 mg.
Magnesium (as oxide)	0.15 mg.
Calcium (as phosphate)	250 mg.
Phosphorus (as calcium phosphate)	193 mg.

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Each Filmtab® represents:

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Thiamine Mononitrate	5 mg.
Riboflavin	5 mg.
Nicotinamide	25 mg.
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Cobalamin (Vitamin B_{12})	2 mcg.
Calcium Pantothenate	5 mg.
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Iodine (as calcium iodate)	0.15 mg.
Cobalt (as sulfate)	0.1 mg.
Manganese (as sulfate)	1 mg.
Magnesium (as oxide)	5 mg.
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Riboflavin	5 mg.
Nicotinamide	100 mg.
Pyridoxine Hydrochloride	5 mg.
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Iodine (as calcium iodate)	0.15 mg.
Cobalt (as sulfate)	0.1 mg.
Manganese (as sulfate)	1 mg.
Magnesium (as oxide)	5 mg.
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Nicotinamide	30 mg.
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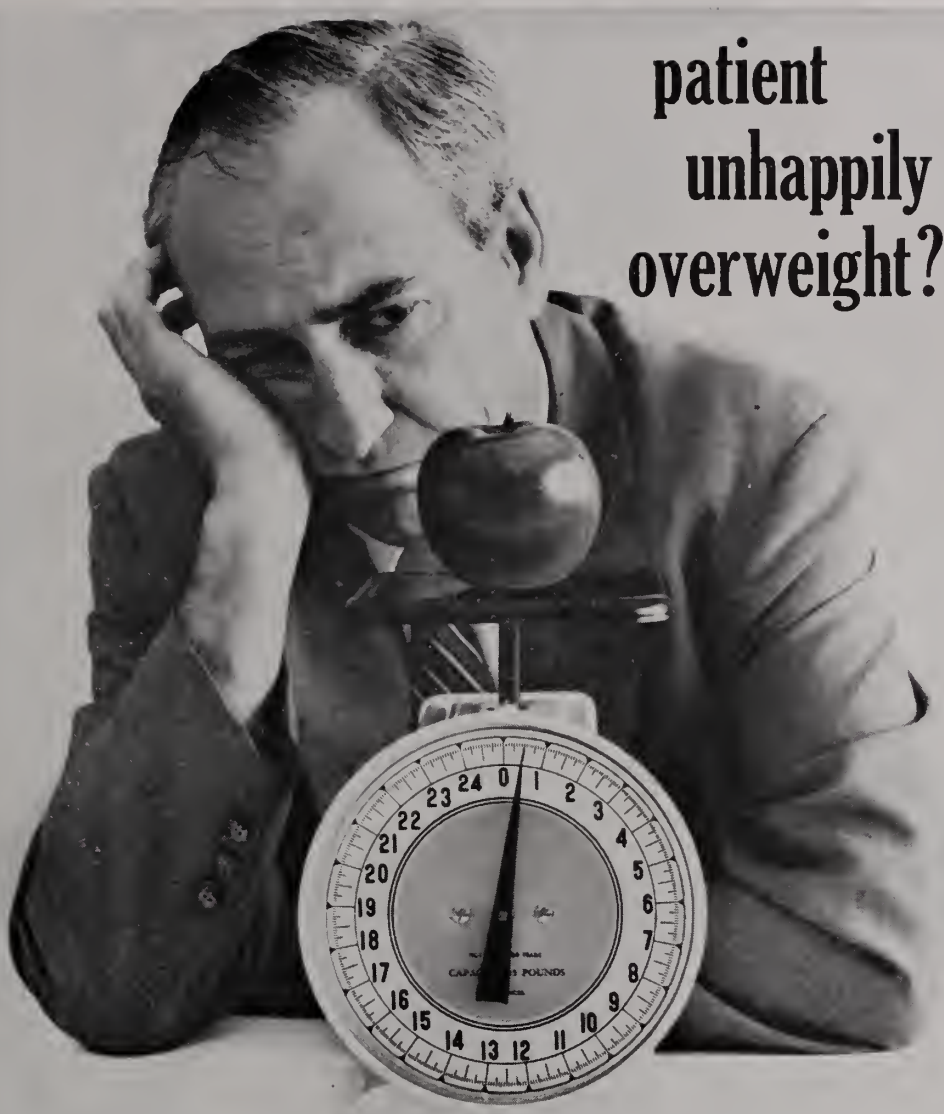

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[1] Douglas, H. S.: West. J. Surg. 59:238 (May) 1951.

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1. Aviado, D. M. et al: J. Pharmacol. & Exper. Therap. 122: 406-417 (Mar.) 1958. 2. Laboratory Report: Research Div., Chas. C. Haskell & Co., 1959.

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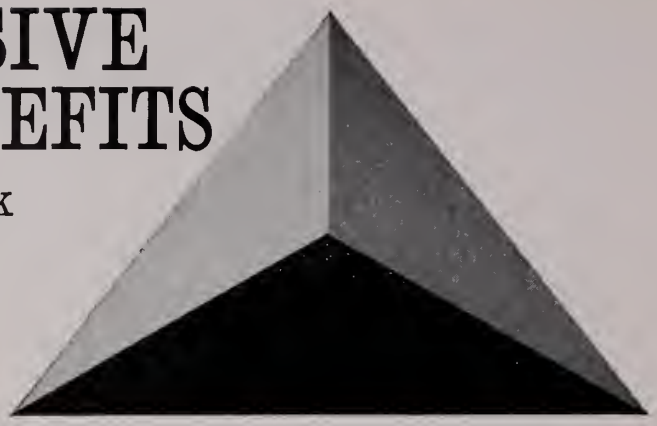

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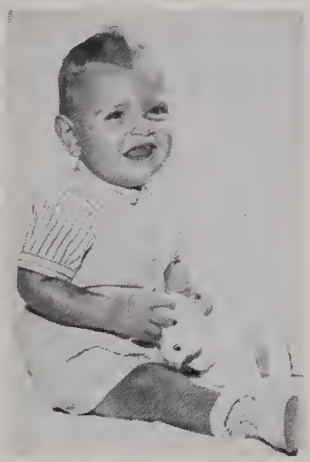
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UNSURPASSED RELIEF OF NASAL CONGESTION DIMETAPP Extentabs contain an unexcelled antihistamine, Dimetane, which has produced good to excellent results in thousands of cases of allergic respiratory disorders.* In DIMETAPP Extentabs, the action of Dimetane with two outstanding decongestants—phenylephrine and phenylpropanolamine—promptly dries secretions and reduces edema and congestion in the nose, the sinuses, and the upper respiratory tract.

CLEAR BREATHING FOR 12 HOURS ON 1 TABLET Long-acting DIMETAPP Extentabs offer up to 12-hour relief on just one tablet. Easier to use than nose drops or sprays, DIMETAPP reaches into areas topical decongestants can't touch—without rebound congestion.

EXCEPTIONAL FREEDOM FROM SIDE EFFECTS With DIMETAPP Extentabs, there's little problem of either drowsiness or overstimulation. The antihistamine component, Dimetane, offers a high percentage of effective relief with only drowsiness as a possible infrequent side effect.* Small, fully efficient dosages of decongestants minimize the danger of overstimulation.

DIMETAPP Extentabs contain Dimetane® (parabromdylamine [brompheniramine] maleate) 12 mg., phenylephrine HCl 15 mg., and phenylpropanolamine HCl 15 mg. Dependable Extentabs construction assures relief of symptoms for up to 12 hours with 1 tablet.

Dosage: Adults—1 Extentab q. 8-12 hours. Children over 6—1 Extentab q. 12 hours. Administer with caution to patients with cardiac or peripheral vascular diseases and hypertension, and to those sensitive to antihistamines. See package insert for further details. **Supplied:** bottles of 100 and 500.

*Full bibliography on Dimetane available on request.

A. H. ROBINS CO., INC. Richmond 20, Virginia
Ethical Pharmaceuticals of Merit Since 1878

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We work closely with the pharmaceutical manufacturers to insure having the newest drugs in stock as soon as you prescribe them for your patients. New drugs are received in our prescription departments at the rate of more than one a day.

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56

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ANNOUNCING—
SPECIFICALLY FOR
INFECTIONS DUE TO
"RESISTANT" STAPHYLOCOCCI

AN ENTIRELY NEW SYNTHETIC
"STAPH-CIDAL" PENICILLIN

Staphcillin™

sodium dimethoxyphenyl penicillin
FOR INJECTION

UNIQUE—BECAUSE IT
RETAINS ANTIBACTERIAL
ACTIVITY IN THE PRESENCE OF
STAPHYLOCOCCAL PENICILLINASES
WHICH INACTIVATE
OTHER PENICILLINS

Bristol™

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NEW SYNTHETIC PENICILLIN FOR "RESISTANT" STAPH

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STAPHCILLIN™

(sodium dimethoxyphenyl penicillin)

For Injection

DESCRIPTION

Staphcillin is a unique new synthetic parenteral penicillin produced by Bristol Laboratories for the specific treatment of staphylococcal infections due to resistant organisms. Its uniqueness resides in its property of resisting inactivation by staphylococcal penicillinase. It is active against strains of staphylococci which are resistant to other penicillins.

Each dry filled vial contains: 1 Gm. Staphcillin (sodium dimethoxyphenyl penicillin), equivalent to 900 mg. dimethoxyphenyl penicillin activity.

INDICATIONS

Staphcillin is recommended as specific therapy only in infections due to strains of staphylococci resistant to other penicillins, e.g.:

Skin and soft tissue infections: cellulitis, wound infections, carbuncles, pyoderma, furunculosis, lymphangitis and lymphadenitis.

Respiratory infections: staphylococcal lobar or bronchopneumonia, and lung abscesses combined with indicated surgical treatment.

Other infections: staphylococcal septicemia, bacteremia, acute or subacute endocarditis, acute osteomyelitis and enterocolitis.

Infections due to penicillin-sensitive staphylococci, streptococci, pneumococci and gonococci should be treated with Syncillin® or parenteral penicillin G rather than Staphcillin. Treponemal infections should be treated with parenteral penicillin G.

DOSAGE AND ADMINISTRATION

Staphcillin is well tolerated when given by deep intragluteal or intravenous injection.

As is the case with other antibiotics, the duration of therapy should be determined by the clinical and bacteriological response of the patient. Therapy should be continued for at least 48 hours after the patient has become afebrile, asymptomatic and cultures are negative. The usual duration has been 5-7 days.

Intramuscular route: The usual adult dose is 1 Gm. every 4 or 6 hours. Infants' and children's dosage is 25 mg. per Kg. (approximately 12 mg. per pound) every 6 hours.

Intravenous route: 1 Gm. every 6 hours using 50 ml. of sterile saline solution at the rate of 10 ml. per minute.

**Warning:* Solutions of Staphcillin and kanamycin should not be mixed, as they rapidly inactivate each other. Data on the results of mixing Staphcillin with other antibiotics are being accumulated.

DIRECTIONS FOR RECONSTITUTION

Add 1.5 ml. sterile distilled water or normal saline to a 1 Gm. vial and shake vigorously. Withdraw the clear, reconstituted solution (2.0 ml.) into a syringe and inject. The reconstituted solution contains 500 mg. of Staphcillin per ml. Reconstituted solutions are stable for 24 hours under refrigeration.

For intravenous use, dilute the reconstituted dose in 50 ml. of sterile saline and inject at the rate of 10 ml. per minute.

*This statement supersedes that in the Official Package Circulars dated September and/or October, 1960.

(continued)

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MICROBIOLOGICAL AND PHARMACOLOGICAL PROPERTIES

In vitro studies show that STAPHCILLIN is a bactericidal penicillin with activity against staphylococci resistant to penicillin G. Strains of staphylococci so far tested have been sensitive to STAPHCILLIN *in vitro* at concentrations of 1-6 mcg. per ml. These levels are readily attained in the blood and tissues by administration of STAPHCILLIN at the recommended dosage. This unique attribute is probably due to the fact that STAPHCILLIN is stable in the presence of staphylococcal penicillinase. STAPHCILLIN also resists degradation by *B. cereus* penicillinase. The antimicrobial spectrum of STAPHCILLIN with regard to other microorganisms is qualitatively similar to that of penicillin G; but considerably higher concentrations of STAPHCILLIN are required for bactericidal activity than is the case with penicillin G.

STAPHCILLIN is rapidly absorbed after intramuscular injection. Peak blood levels (6-10 mcg. ml. on the average after a 1.0 Gm. dose) are attained within 1 hour; and then progressively decline to less than 1 mcg. over a 4 to 6 hour period. It is poorly absorbed from the gastrointestinal tract. STAPHCILLIN is rapidly excreted by the kidney.

As shown by animal studies, STAPHCILLIN is readily distributed in body tissues after intramuscular injection. Of the tissues studied, highest concentrations are reached in the kidney, liver, heart and lung in that order; the spleen and muscles show lower concentrations of the antibiotic. STAPHCILLIN diffuses into human pleural and prostatic fluids, but its diffusion into the spinal fluid has not yet been completely studied. However, one patient with meningitis showed a significant concentration in his spinal fluid while on STAPHCILLIN therapy.

Toxicity studies with STAPHCILLIN and penicillin G in animals show that they have approximately the same low order of toxicity.

Certain staphylococci can be made resistant to STAPHCILLIN in the laboratory, but this resistance is not related to their penicillinase production. During the clinical trials, no STAPHCILLIN-resistant strains of staphylococci were observed or developed; the possibility of the emergence of such strains in the clinical setting awaits further observation.

PRECAUTIONS

During the clinical trials, several mild skin reactions, e.g., itching, papular eruption and erythema were observed both during and after discontinuance of STAPHCILLIN therapy. Patients with histories of hay fever, asthma, urticaria and previous sensitivity to penicillin are more likely to react adversely to the penicillins. It is important that the possibility of penicillin anaphylaxis be kept in mind. Epinephrine and the usual adjuvants (antihistamines, corticosteroids) should be available for emergency treatment. Because of the resistance of STAPHCILLIN to destruction by penicillinase, parenteral *B. cereus* penicillinase may not be effective for the treatment of allergic reactions. Information with regard to cross-allergenicity between penicillin G, penicillin V, phenethicillin (Syncillin) and STAPHCILLIN is not available at present. If superinfection due to Gram-negative organisms or fungi occurs during STAPHCILLIN therapy, appropriate measures should be taken.

SUPPLY

List 79502 — 1.0 Gm. dry filled vial.

BRISTOL LABORATORIES · SYRACUSE, NEW YORK
Division of Bristol-Myers Company

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UNIQUE SYNTHETIC "STAPH-CIDAL" PENICILLIN

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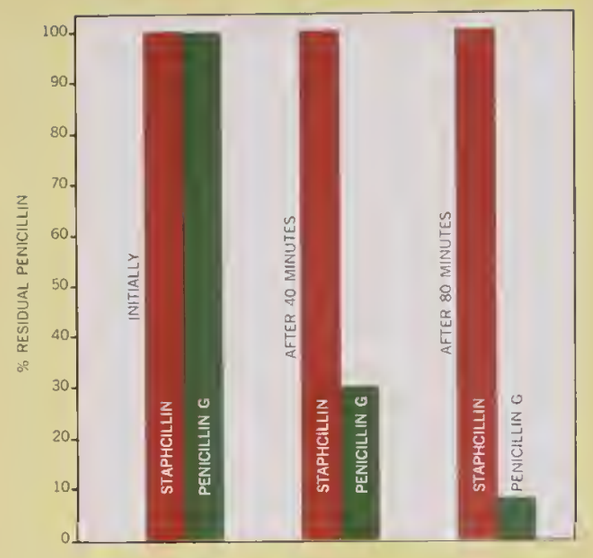

In the presence of staphylococcal penicillinase, STAPHCILLIN remained active and retained its antibacterial action. By contrast, penicillin G was rapidly destroyed in the same period of time. *(After Gourevitch et al., to be published)*

Specifically for "resistant" staph...

Staphcillin™

sodium dimethoxyphenyl penicillin
FOR INJECTION

The failure of staphylococcal infections to respond to penicillin therapy is attributed to the penicillin-destroying enzyme, penicillinase, produced by the invading staphylococcus.

Unlike other penicillins:

1 STAPHCILLIN is effective because it retains its antibacterial activity despite the presence of staphylococcal penicillinase.

2 The clinical effectiveness of STAPHCILLIN has been confirmed by dramatic results in a wide variety of infections due to "resistant" staphylococci, many of which were serious and life-threatening.

Like other penicillins:

STAPHCILLIN has no significant systemic toxicity. It is well tolerated locally, and pain or irritation at the injection site is comparable to that following the injection of penicillin G. *In occasional cases, typical penicillin reactions may be experienced.*

PROFESSIONAL INFORMATION SERVICE — The attached Official Package Circular provides complete information on the indications, dosage, and precautions for the use of STAPHCILLIN. If you desire additional information concerning clinical experiences with STAPHCILLIN, the Medical Department of Bristol Laboratories is at your service. You may direct your inquiries via collect telephone call to New York, PLaza 7-7061, or by mail to Medical Department, Bristol Laboratories, 630 Fifth Ave., N. Y. 20, N. Y.

BRISTOL LABORATORIES · SYRACUSE, NEW YORK
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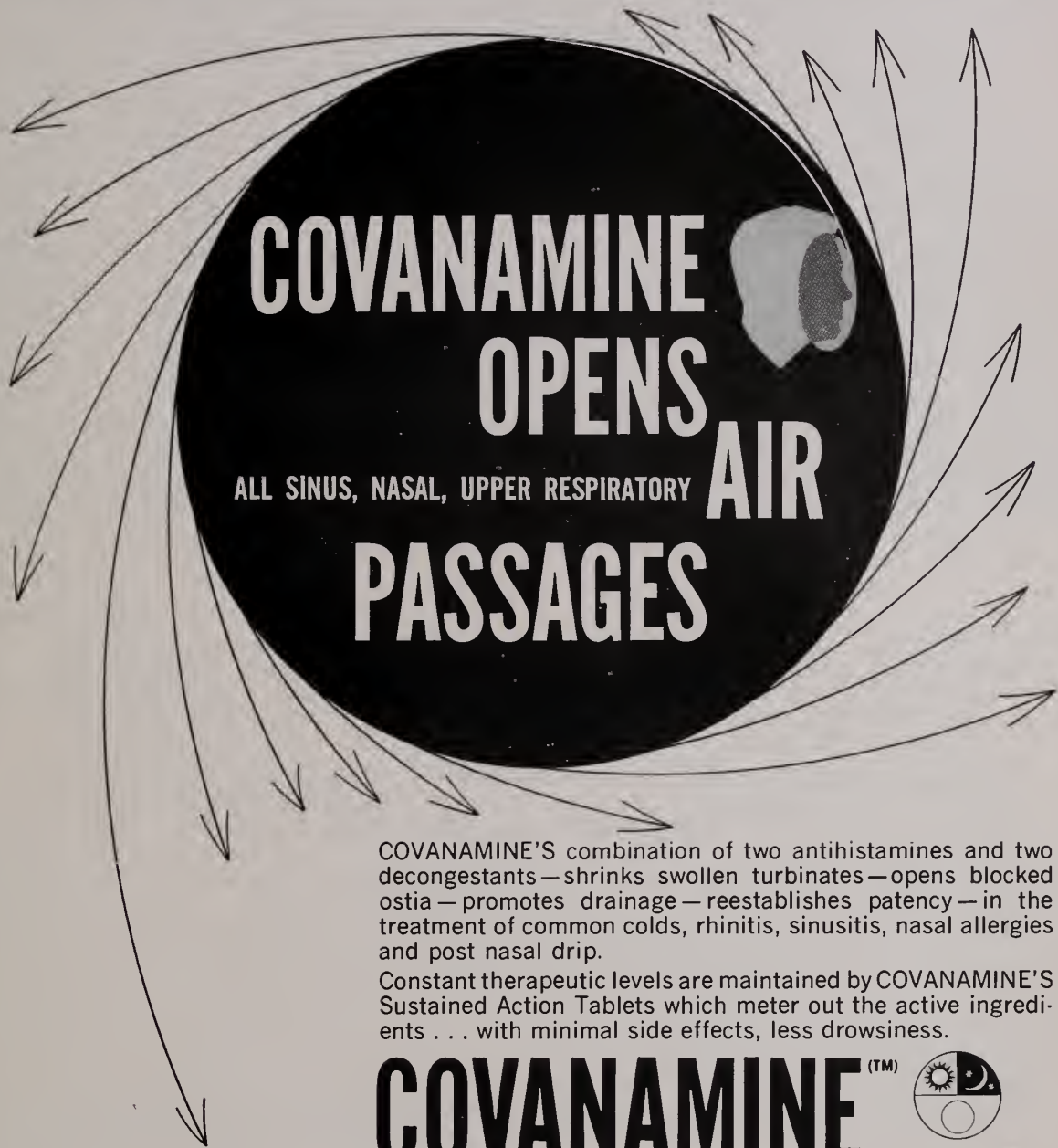
EFFECTIVE ANTIHISTAMINE-DECONGESTANT ACTION



COVANAMINE'S combination of two antihistamines and two decongestants—shrinks swollen turbinates—opens blocked ostia—promotes drainage—reestablishes patency—in the treatment of common colds, rhinitis, sinusitis, nasal allergies and post nasal drip.

Constant therapeutic levels are maintained by COVANAMINE'S Sustained Action Tablets which meter out the active ingredients . . . with minimal side effects, less drowsiness.

COVANAMINE(TM) Sustained Action Tablets

Also available as Black Cherry Flavored COVANAMINE LIQUID; COVANAMINE EXPECTORANT provides the liquid formula plus glyceryl guaiacolate.

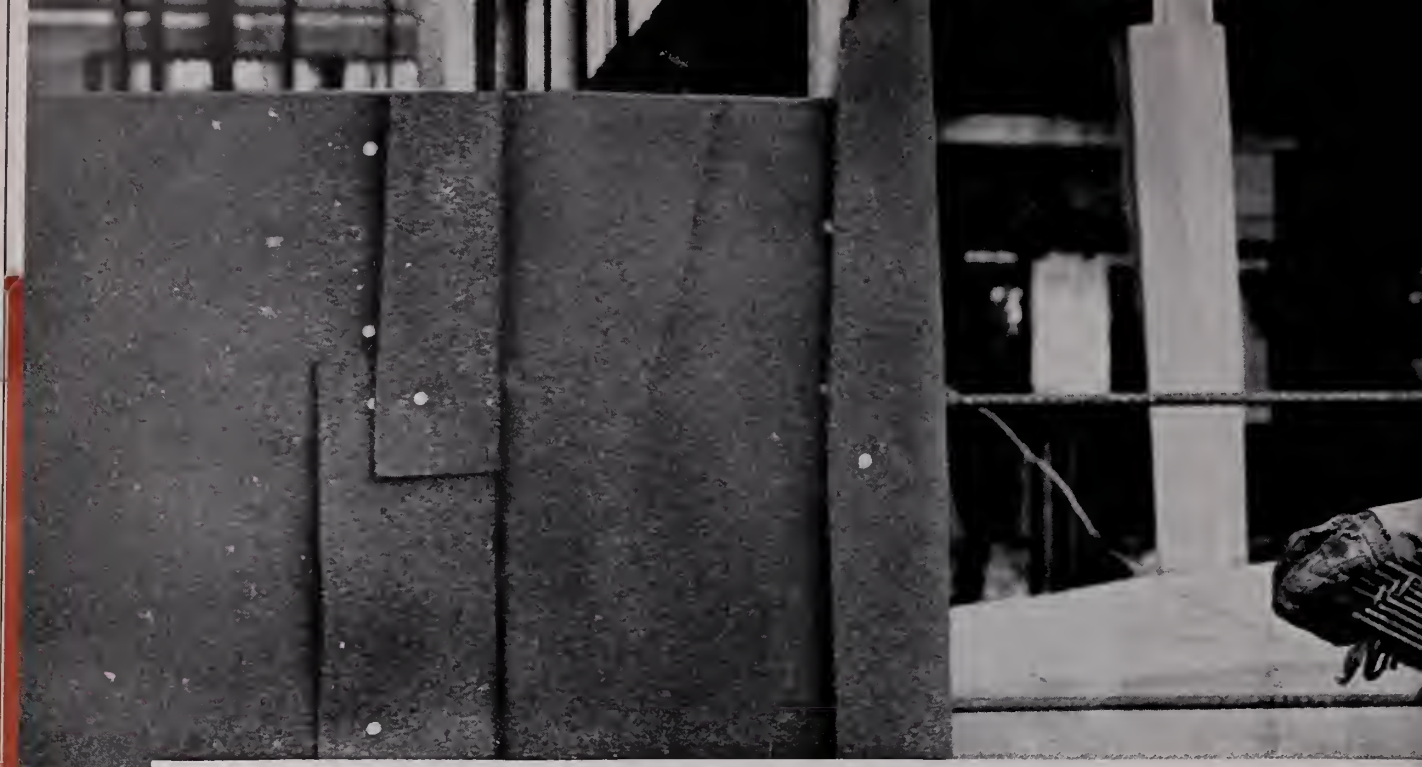
Each Sustained Action (continuous release) COVANAMINE tablet contains: phenylephrine HCl 15 mg., phenylpropanolamine HCl 25 mg., Chlorpheniramine maleate 4 mg., and pyrilamine maleate 25 mg.

COVANAMINE LIQUID provides ¼ the tablet formula in each 5 ml. teaspoon.

COVANAMINE EXPECTORANT provides the liquid formula plus glyceryl guaiacolate 100 mg. per teaspoon.

Dosage: Tablets: Adults—1 tablet (swallowed without chewing) morning, mid-afternoon and at bedtime; Children, 6 to 12 years—½ tablet. Liquid and Expectorant: Adults—2 teaspoonfuls every four hours. Children 6 to 12 years—1 teaspoonful every four hours; 1 to 6 years—½ teaspoonful every four hours; under 1 year—¼ teaspoonful every four hours.

VANPELT AND BROWN, INC. Richmond, Virginia



Put your low-back patient back on the payroll

Soma's prompt relief of pain and stiffness can get your low-back patients back to work in days instead of weeks

Soma is unique because it combines the properties of an effective muscle relaxant and an independent analgesic in *a single drug*. Unlike most other muscle relaxants, which can only relax muscle tension, Soma attacks both phases of the pain-spasm cycle at the same time.

Thus with Soma, you can break up both pain and spasm fast, effectively . . . help give your patient the two things he wants most: relief from pain and rapid return to full activity.

Soma is notably safe. Side effects are rare. Drowsiness may occur, but usually only with higher dosages. Soma is available in 350 mg. tablets. Usual dosage is 1 tablet q.i.d.

The muscle relaxant with an independent pain-relieving action

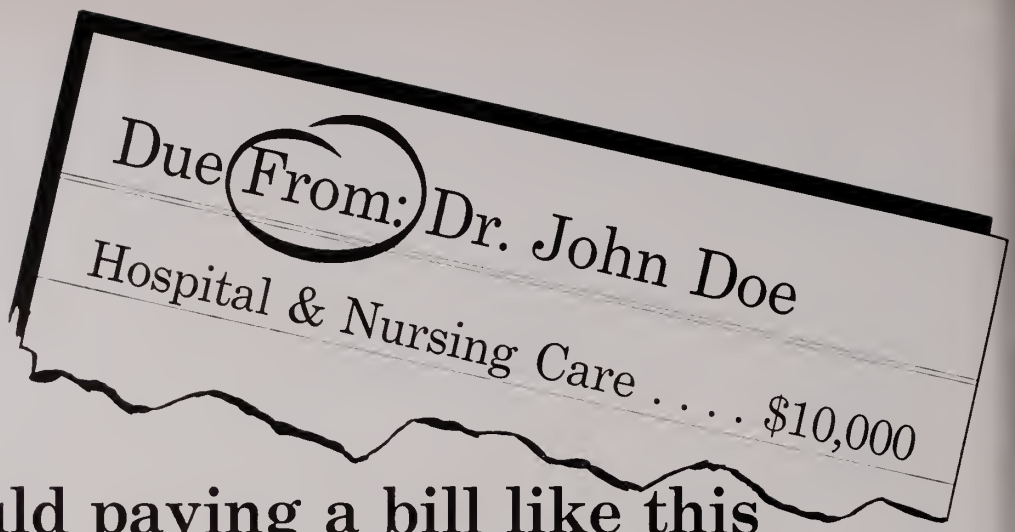
SOMA®

(carisoprodol, Wallace)

Wallace Laboratories, Cranbury, New Jersey

How you can help save your patients a month's pay

Kestler reports in J.A.M.A. (April 30, 1960) that conventionally treated low-back syndrome patients required an average of 41 days for full recovery (range: 3 to 90 days). The addition of Soma therapy in this comparative investigation reduced the average to 11.5 days (range: 2 to 21 days). With Soma, patients averaged full recovery 30 days sooner.



Doctor . . .

• What would paying a bill like this do to your personal finances?

• And what about additional bills for your continuing Office Expenses — if YOU had been the patient?

AS A PRACTICING PHYSICIAN . . .

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PAYS 100% of Hospital Room & Board Charges and Hospital Miscellaneous Expense PLUS 75% of in-hospital Nurse Fees — after the selected Deductible Amount has been applied — up to a $10,000 overall Limit of Payment for expenses incurred within 3 years of any one accident or sickness. Applies to each insured Member, Spouse or Dependent Child.

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. . . knowing that today it costs BIG money to operate your office — even when you are sick or injured and can't be 'on duty' — it's only good business to obtain Overhead Expense protection.

PLAN 2

Professional Overhead Expense

PAYS covered Office Expenses — Rent, Employees' Salaries, Heat, etc. — when you are continuously disabled by injury or sickness for 14 days or more. Payments are made *directly to you*, and can continue for as long as 1 year if you are totally disabled that length of time.

You *select* only the protection you need — from $200 up to $1,000 a month — based on actual operating expenses. And initial low cost eventually is even lower because premiums are *tax-deductible!*

APPROVED BY THE MEDICAL SOCIETY OF VIRGINIA

UNDERWRITTEN BY AMERICAN CASUALTY CO. READING, PA.

DAVID A. DYER, Administrator

Medical Arts Building **Roanoke, Virginia**

HAVE YOUR NURSE PHONE US COLLECT — DIAMOND 4-5000 — for complete details about this much-needed protection for which hundreds of Virginia doctors have already enrolled. We will gladly supply additional information or an enrollment application. There is no obligation and no solicitor will call. **MAY WE HEAR FROM YOU TODAY?**

When it's more like "grippe" or "flu" than a simple cold, but an antibiotic is not indicated... prescribe NEW WIN-CODIN* Tablets

New Win-Codin tablets provide greater symptomatic relief from influenza, colds and sinusitis than do simple analgesic-antihistamine combinations. New Win-Codin tablets contain a full complement of the most effective agents available to relieve general discomfort, bring down fever and lessen congestive symptoms.

Each tablet contains:

Codeine phosphate 15 mg.—to relieve local and generalized pain and control dry cough

Neo-Synephrine® 10 mg.—to shrink nasal membranes and open sinus ostia

Acetylsalicyclic acid 300 mg. (5 grains)—to reduce fever and relieve aching

Chlorpheniramine maleate 2 mg.—an antihistamine to shrink engorged membranes and lessen rhinorrhea

Ascorbic acid (vitamin C) 50 mg.—to increase resistance to infections†

New Win-Codin tablets will bring more comfort to many patients suffering from severe colds, influenza or sinusitis.

Average dose: Adults, 1 or 2 tablets three times daily; children 6 to 12 years, from ½ to 1 tablet three times daily.

Available in bottles of 100 (Class B narcotic).

Winthrop LABORATORIES
New York 18, N. Y.

*Trademark †For persons with vitamin C deficiency
Neo-Synephrine (brand of phenylephrine), trademark reg. U. S. Pat. Off.

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(Brand of dextriferron)

intravenously

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The cigarette that made the Filter Famous!

It's true. Kent's enormous rise in popularity—with all the attendant magazine and newspaper stories—really put momentum to the trend toward filter cigarettes!

So, Kent is the cigarette that made the filter famous. And no wonder. Kent's famous Micronite filter is made from a pure, all-vegetable material. A specially designed process at the P. Lorillard factory compresses this material into the filter shape and creates an intricate network of tiny channels which refine smoking flavor.

Kent with the Micronite filter refines away harsh flavor . . . refines away hot taste . . . makes the taste of a cigarette mild.

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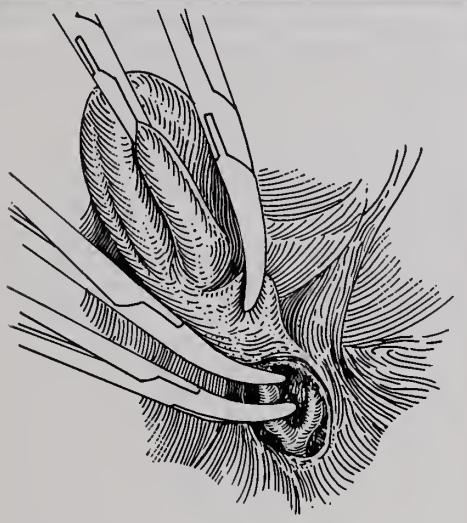

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He may be told that, among animals of similar dietary habits and digestive processes, some have a gallbladder and some do not. Among the herbivores, the cow and sheep have one, the deer and horse do not; among the omnivores, the mouse has one but the rat does not.

Source: Farris, J. M., and Smith, G. K.: M. Clin. North America *43*:1133 (July) 1959.

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needs

increased bile flow...

DECHOLIN®

(dehydrocholic acid, AMES)

"Constant loss of bile [from relaxation of sphincter of Oddi following cholecystectomy] reduces the amounts available for lipid absorption after meals, with resulting clinical symptoms apparently relieved by bile acid administration." *Source:* Popper, H., and Schaffner, F.: Liver: Structure and Function, New York, McGraw-Hill 1957, p. 309.

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and for hydrocholeresis plus *spasmolysis*...

DECHOLIN® WITH BELLADONNA

(dehydrocholic acid with belladonna, AMES)

Available: DECHOLIN/Belladonna Tablets: DECHOLIN (dehydrocholic acid, AMES) 3¾ gr. (250 mg.) and extract of belladonna ⅙ gr. (10 mg.). Bottles of 100 and 500.

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'Thorazine' can rapidly control the severely agitated patient, preventing him from harming himself or those around him. Usually, his belligerence, hostility and excitement are replaced by rational, docile behavior, and he becomes receptive to guidance and counselling.

'Thorazine' is so effective in agitation because it provides *an intense tranquilizing effect,* for control of both emotional and physical hyperactivity; and *a transitory soporific effect,* for added initial control of physical hyperactivity.

SK&F

Smith Kline & French Laboratories

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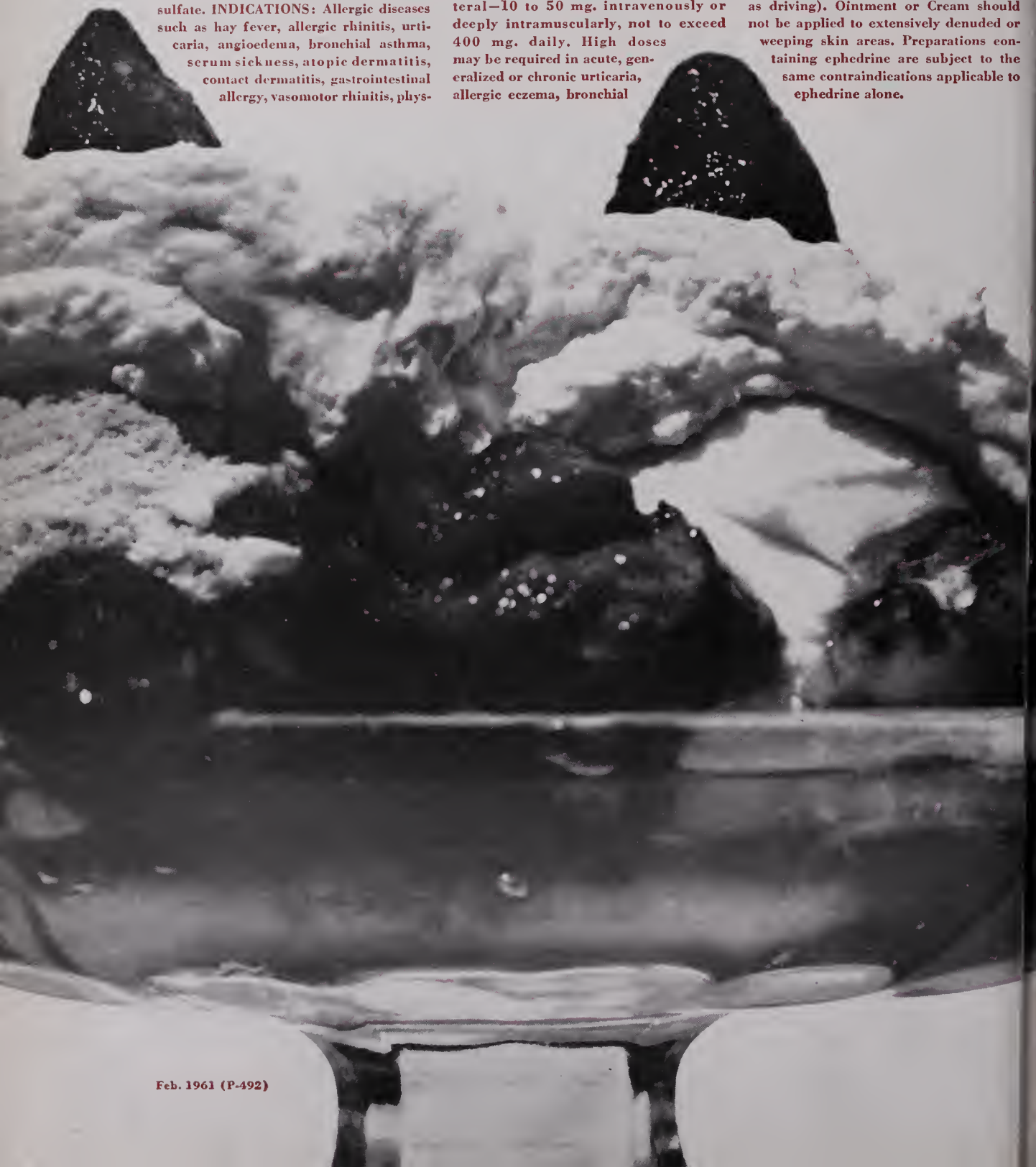
OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

MARCH, 1961

BENADRYL Hydrochloride (diphenhydramine hydrochloride, Parke-Davis). Kapseals® of 50 mg.; Capsules of 25 mg.; Emplets® (enteric-coated tablets) of 50 mg.; in aqueous solutions: 1-cc. Ampoules, 50 mg. per cc.; 10- and 30-cc. Steri-Vials,® 10 mg. per cc. with 1:10,000 benzethonium chloride as a germicidal agent; Elixir, 10 mg. per 4 cc.; 2% Ointment (water-miscible base); Kapseals of 50 mg. BENADRYL HCl with 25 mg. ephedrine sulfate. INDICATIONS: Allergic diseases such as hay fever, allergic rhinitis, urticaria, angioedema, bronchial asthma, serum sickness, atopic dermatitis, contact dermatitis, gastrointestinal allergy, vasomotor rhinitis, physical allergies, and allergic transfusion reactions, also postoperative nausea and vomiting, motion sickness, parkinsonism, and quieting emotionally disturbed children. Parenteral administration is indicated where, in the judgment of the physician, prompt action is necessary and oral therapy would be inadequate. DOSAGE: Oral—adults, 25 to 50 mg. three or four times daily. Children, 1 or 2 teaspoonfuls of Elixir three or four times daily. Parenteral—10 to 50 mg. intravenously or deeply intramuscularly, not to exceed 400 mg. daily. High doses may be required in acute, generalized or chronic urticaria, allergic eczema, bronchial asthma, and status asthmaticus. PRECAUTION: Avoid subcutaneous or perivascular injection. Single parenteral dosage greater than 100 mg. should be avoided, particularly in hypertension and cardiac disease. Products containing BENADRYL should be used cautiously with hypnotics or other sedatives; if atropine-like effects are undesirable; or if the patient engages in activities requiring alertness or rapid, accurate response (such as driving). Ointment or Cream should not be applied to extensively denuded or weeping skin areas. Preparations containing ephedrine are subject to the same contraindications applicable to ephedrine alone.



Feb. 1961 (P-492)

when allergy looms large in the life of your patient...

relieves the symptoms of food allergy When the allergic patient can't resist eating an offending food, the ensuing punishment is often out of all proportion to the nature of the "crime." In such cases, BENADRYL provides a twofold therapeutic approach to the management of distressing symptoms.

antihistaminic action A potent histamine antagonist, BENADRYL breaks the cycle of allergic response, thereby relieving gastrointestinal upset, urticaria, edema, pruritus, and coryza.

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PARKE-DAVIS

PARKE, DAVIS & COMPANY, Detroit 32, Michigan

BENADRYL®

antihistaminic-antispasmodic

cuts most allergens down to size!

VIRGINIA MEDICAL MONTHLY

(Founded by Landon B. Edwards, M. D., April 1874)

PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF VIRGINIA

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In intestinal "grippe"

prompt 4 way check of diarrhea

- Curbs excessive peristalsis
- Adsorbs toxins and gases
- Soothes inflamed mucosa
- Provides intestinal antisepsis

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EFFECTIVE ANTIDIARRHEAL

FORMULA: *Each 15 cc. (tablespoon) contains:*

Sulfaguanidine U.S.P.	2 Gm.
Pectin N.F.	225 mg.
Kaolin	3 Gm.
Opium tincture U.S.P.	0.08 cc.
(equivalent to 2 cc. paregoric)	

DOSAGE: Adults: Initially 1 or 2 tablespoons from four to six times daily, or 1 or 2 teaspoons after each loose bowel movement; reduce dosage as diarrhea subsides.

Children: ½ teaspoon (=2.5 cc.) per 15 lb. of body weight every four hours day and night until stools are reduced to five daily, then every eight hours for three days.

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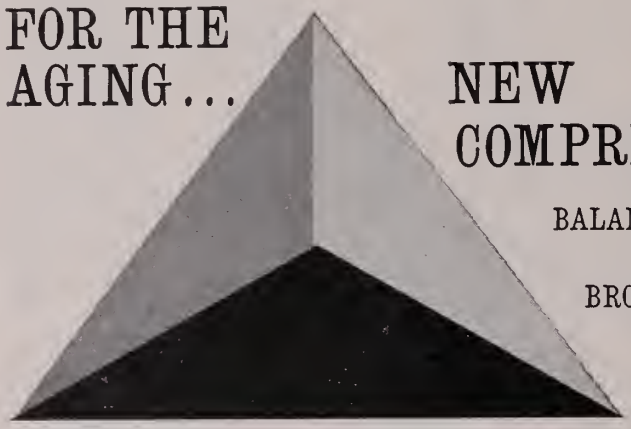

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NEW RALDRATE NOW SOLVES THE PROBLEM OF TASTE RESISTANCE TO CHLORAL-HYDRATE

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ifferent approach to birth control

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ACTIVE INGREDIENTS:
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USING PRINCIPLES NEVER BEFORE APPLIED TO CONTRACEPTIVES

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THIS BLOCK SEALS THE CERVICAL OS.

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ANNOUNCING—
SPECIFICALLY FOR
INFECTIONS DUE TO
"RESISTANT" STAPHYLOCOCCI

AN ENTIRELY NEW SYNTHETIC
"STAPH-CIDAL" PENICILLIN

Staphcillin™

sodium dimethoxyphenyl penicillin
FOR INJECTION

UNIQUE—BECAUSE IT
RETAINS ANTIBACTERIAL
ACTIVITY IN THE PRESENCE OF
STAPHYLOCOCCAL PENICILLINASES
WHICH INACTIVATE
OTHER PENICILLINS

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NEW SYNTHETIC PENICILLIN FOR "RESISTANT" STAPH

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STAPHCILLIN™

(sodium dimethoxyphenyl penicillin)
For Injection

DESCRIPTION

Staphcillin is a unique new synthetic parenteral penicillin produced by Bristol Laboratories for the specific treatment of staphylococcal infections due to resistant organisms. Its uniqueness resides in its property of resisting inactivation by staphylococcal penicillinase. It is active against strains of staphylococci which are resistant to other penicillins.

Each dry filled vial contains: 1 Gm. Staphcillin (sodium dimethoxyphenyl penicillin), equivalent to 900 mg. dimethoxyphenyl penicillin activity.

INDICATIONS

Staphcillin is recommended as specific therapy only in infections due to strains of staphylococci resistant to other penicillins, e.g.:

Skin and soft tissue infections: cellulitis, wound infections, carbuncles, pyoderma, furunculosis, lymphangitis and lymphadenitis.

Respiratory infections: staphylococcal lobar or bronchopneumonia, and lung abscesses combined with indicated surgical treatment.

Other infections: staphylococcal septicemia, bacteremia, acute or subacute endocarditis, acute osteomyelitis and enterocolitis.

Infections due to penicillin-sensitive staphylococci, streptococci, pneumococci and gonococci should be treated with Syncillin® or parenteral penicillin G rather than Staphcillin. Treponemal infections should be treated with parenteral penicillin G.

DOSAGE AND ADMINISTRATION

Staphcillin is well tolerated when given by deep intragluteal or intravenous injection.

As is the case with other antibiotics, the duration of therapy should be determined by the clinical and bacteriological response of the patient. Therapy should be continued for at least 48 hours after the patient has become afebrile, asymptomatic and cultures are negative. The usual duration has been 5-7 days.

Intramuscular route: The usual adult dose is 1 Gm. every 4 or 6 hours. Infants' and children's dosage is 25 mg. per Kg. (approximately 12 mg. per pound) every 6 hours.

Intravenous route: 1 Gm. every 6 hours using 50 ml. of sterile saline solution at the rate of 10 ml. per minute.

**Warning:* Solutions of Staphcillin and kanamycin should not be mixed, as they rapidly inactivate each other. Data on the results of mixing Staphcillin with other antibiotics are being accumulated.

DIRECTIONS FOR RECONSTITUTION

Add 1.5 ml. sterile distilled water or normal saline to a 1 Gm. vial and shake vigorously. Withdraw the clear, reconstituted solution (2.0 ml.) into a syringe and inject. The reconstituted solution contains 500 mg. of Staphcillin per ml. Reconstituted solutions are stable for 24 hours under refrigeration.

For intravenous use, dilute the reconstituted dose in 50 ml. of sterile saline and inject at the rate of 10 ml. per minute.

*This statement supersedes that in the Official Package Circulars dated September and/or October, 1960.

(continued)

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MICROBIOLOGICAL AND PHARMACOLOGICAL PROPERTIES

In vitro studies show that STAPHCILLIN is a bactericidal penicillin with activity against staphylococci resistant to penicillin G. Strains of staphylococci so far tested have been sensitive to STAPHCILLIN *in vitro* at concentrations of 1-6 mcg. per ml. These levels are readily attained in the blood and tissues by administration of STAPHCILLIN at the recommended dosage. This unique attribute is probably due to the fact that STAPHCILLIN is stable in the presence of staphylococcal penicillinase. STAPHCILLIN also resists degradation by *B. cereus* penicillinase. The antimicrobial spectrum of STAPHCILLIN with regard to other microorganisms is qualitatively similar to that of penicillin G; but considerably higher concentrations of STAPHCILLIN are required for bactericidal activity than is the case with penicillin G.

STAPHCILLIN is rapidly absorbed after intramuscular injection. Peak blood levels (6-10 mcg. ml. on the average after a 1.0 Gm. dose) are attained within 1 hour; and then progressively decline to less than 1 mcg. over a 4 to 6 hour period. It is poorly absorbed from the gastrointestinal tract. STAPHCILLIN is rapidly excreted by the kidney.

As shown by animal studies, STAPHCILLIN is readily distributed in body tissues after intramuscular injection. Of the tissues studied, highest concentrations are reached in the kidney, liver, heart and lung in that order; the spleen and muscles show lower concentrations of the antibiotic. STAPHCILLIN diffuses into human pleural and prostatic fluids, but its diffusion into the spinal fluid has not yet been completely studied. However, one patient with meningitis showed a significant concentration in his spinal fluid while on STAPHCILLIN therapy.

Toxicity studies with STAPHCILLIN and penicillin G in animals show that they have approximately the same low order of toxicity.

Certain staphylococci can be made resistant to STAPHCILLIN in the laboratory, but this resistance is not related to their penicillinase production. During the clinical trials, no STAPHCILLIN-resistant strains of staphylococci were observed or developed; the possibility of the emergence of such strains in the clinical setting awaits further observation.

PRECAUTIONS

During the clinical trials, several mild skin reactions, e.g., itching, papular eruption and erythema were observed both during and after discontinuance of STAPHCILLIN therapy. Patients with histories of hay fever, asthma, urticaria and previous sensitivity to penicillin are more likely to react adversely to the penicillins. It is important that the possibility of penicillin anaphylaxis be kept in mind. Epinephrine and the usual adjuvants (antihistamines, corticosteroids) should be available for emergency treatment. Because of the resistance of STAPHCILLIN to destruction by penicillinase, parenteral *B. cereus* penicillinase may not be effective for the treatment of allergic reactions. Information with regard to cross-allergenicity between penicillin G, penicillin V, phenethicillin (Syncillin) and STAPHCILLIN is not available at present. If superinfection due to Gram-negative organisms or fungi occurs during STAPHCILLIN therapy, appropriate measures should be taken.

SUPPLY

List 79502 — 1.0 Gm. dry filled vial.

BRISTOL LABORATORIES · SYRACUSE, NEW YORK
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UNIQUE SYNTHETIC "STAPH-CIDAL" PENICILLIN

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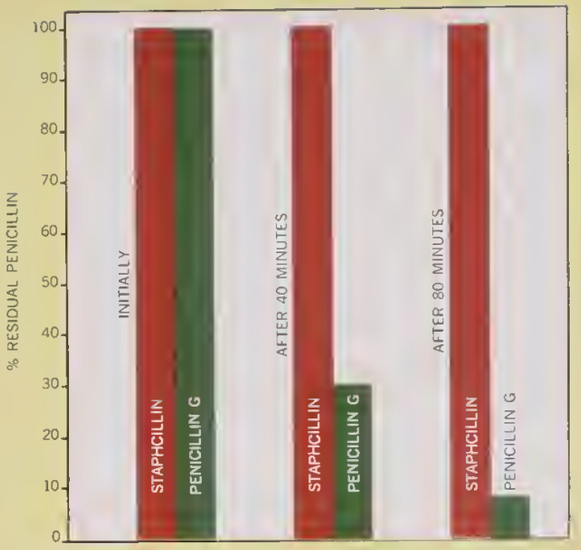

In the presence of staphylococcal penicillinase, STAPHCILLIN remained active and retained its antibacterial action. By contrast, penicillin G was rapidly destroyed in the same period of time. *(After Gourevitch et al., to be published)*

Specifically for "resistant" staph...

Staphcillin™

sodium dimethoxyphenyl penicillin
FOR INJECTION

The failure of staphylococcal infections to respond to penicillin therapy is attributed to the penicillin-destroying enzyme, penicillinase, produced by the invading staphylococcus.

Unlike other penicillins:

1 STAPHCILLIN is effective because it retains its antibacterial activity despite the presence of staphylococcal penicillinase.

2 The clinical effectiveness of STAPHCILLIN has been confirmed by dramatic results in a wide variety of infections due to "resistant" staphylococci, many of which were serious and life-threatening.

Like other penicillins:

STAPHCILLIN has no significant systemic toxicity. It is well tolerated locally, and pain or irritation at the injection site is comparable to that following the injection of penicillin G. *In occasional cases, typical penicillin reactions may be experienced.*

PROFESSIONAL INFORMATION SERVICE — The attached Official Package Circular provides complete information on the indications, dosage, and precautions for the use of STAPHCILLIN. If you desire additional information concerning clinical experiences with STAPHCILLIN, the Medical Department of Bristol Laboratories is at your service. You may direct your inquiries via collect telephone call to New York, PLaza 7-7061, or by mail to Medical Department, Bristol Laboratories, 630 Fifth Ave., N. Y. 20, N. Y.

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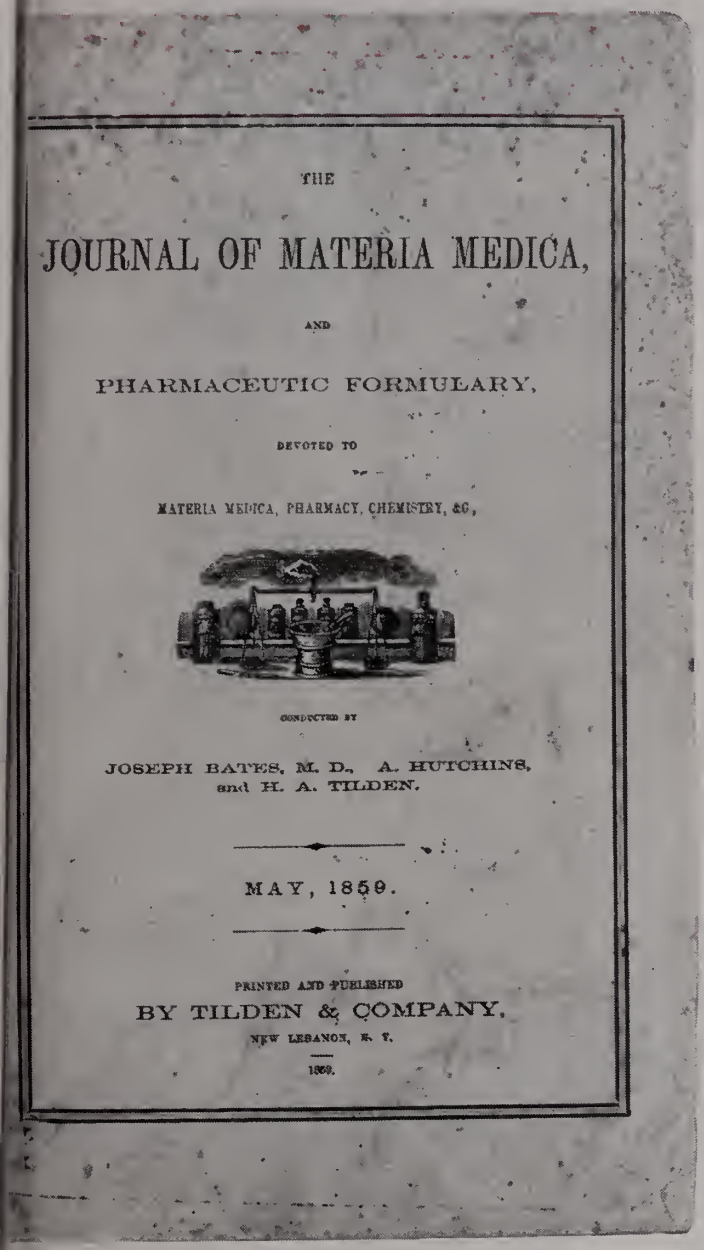

THE

JOURNAL OF MATERIA MEDICA,

AND

PHARMACEUTIC FORMULARY,

DEVOTED TO

MATERIA MEDICA, PHARMACY, CHEMISTRY, &c.,

CONDUCTED BY

JOSEPH BATES, M. D., A. HUTCHINS, and H. A. TILDEN.

MAY, 1859.

PRINTED AND PUBLISHED BY TILDEN & COMPANY, NEW LEBANON, N. Y.

1859.

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Sulfadiazine Sulfamerazine Sulfamethazine	No serious renal complications-infrequent crystalluria. Safer, therapeutic blood levels achieved and maintained. Fewer sulfonamide hypersensitivity reactions.
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DOSAGE: Children—1 teaspoonful or 2 tablets every 4 hours, or in accordance with body weight.
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FORMULA:

Sultussin Liquid
Each teaspoonful (5 cc.) provides:

Sulfadiazine	0.166 Gm.
Sulfamerazine	0.166 Gm.
Sulfamethazine	0.166 Gm.
Pyrilamine Maleate	6.25 mg.
Phenyltoloxamine Dihydrogen Citrate	6.25 mg.
Glyceryl Guaiacolate	50.0 mg.
Ephedrine Sulfate	5.0 mg.

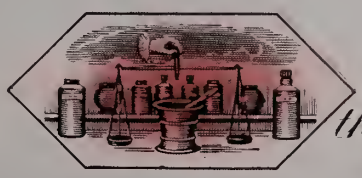
Sultussin Tablets
Each tablet provides:

Sulfadiazine	0.083 Gm.
Sulfamerazine	0.083 Gm.
Sulfamethazine	0.083 Gm.
Pyrilamine Maleate	3.125 mg.
Phenyltoloxamine Dihydrogen Citrate	3.125 mg.
Glyceryl Guaiacolate	25.0 mg.
Ephedrine Sulfate	2.5 mg.

WARNING: Constantly supervise patient, as with all sulfonamides, and prescribe high fluid intake. Antihistamines may cause drowsiness or other side effects in susceptible individuals. Patients should not drive a car or operate dangerous machinery while taking this preparation. Ephedrine sulfate should be used with caution in the presence of cardiac disease, hypertension or hyperthyroidism.

CAUTION: Federal law prohibits dispensing without prescription.

SUPPLIED: Liquid in 4 oz. and pint bottles. Tablets, bottles of 50 and 100. Available at all pharmacies.



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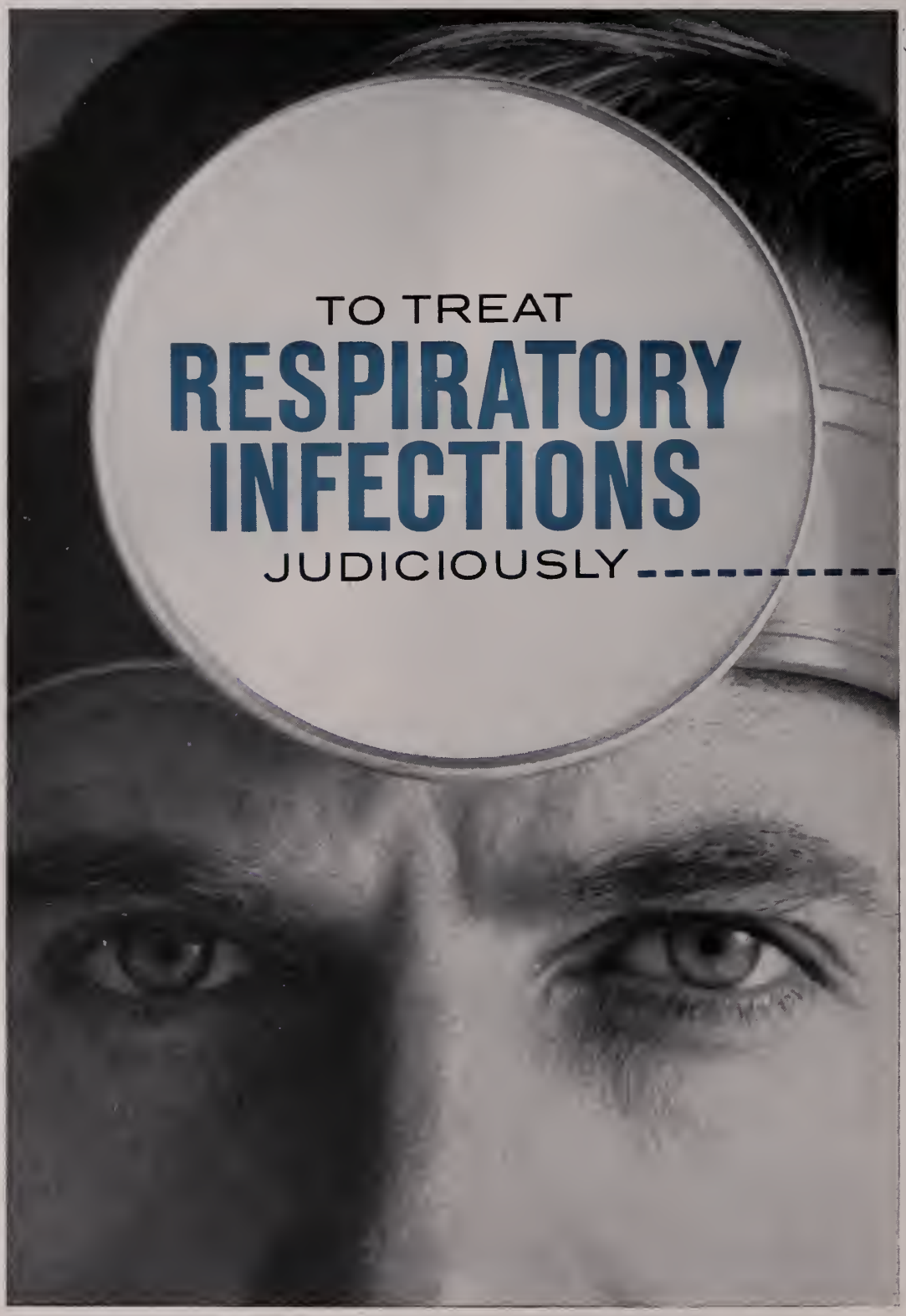
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or

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triacetyloleandomycin

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Literature on request

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Efficacy and expanding clinical use are making Naturetin the diuretic of choice in edema and hypertension. It maintains a favorable urinary sodium-potassium excretion ratio, retains a balanced electrolyte pattern, and causes a relatively small increase in the urinary pH.[2] More potent than other diuretics, Naturetin usually provides 18-hour diuretic action with just a single 5 mg. tablet per day — economical, once-a-day dosage for the patient. Naturetin c̄ K — for added protection in those special conditions predisposing to hypokalemia and for patients on long-term therapy.

Supplied: Naturetin Tablets, 5 mg., scored, and 2.5 mg. Naturetin c̄ K (5 c̄ 500) Tablets, capsule-shaped, containing 5 mg. benzydroflumethiazide and 500 mg. potassium chloride. Naturetin c̄ K (2.5 c̄ 500) Tablets, capsule-shaped, containing 2.5 mg. benzydroflumethiazide and 500 mg. potassium chloride. For complete information consult package circular or write Professional Service Dept., Squibb, 745 Fifth Avenue, New York 22, N. Y.

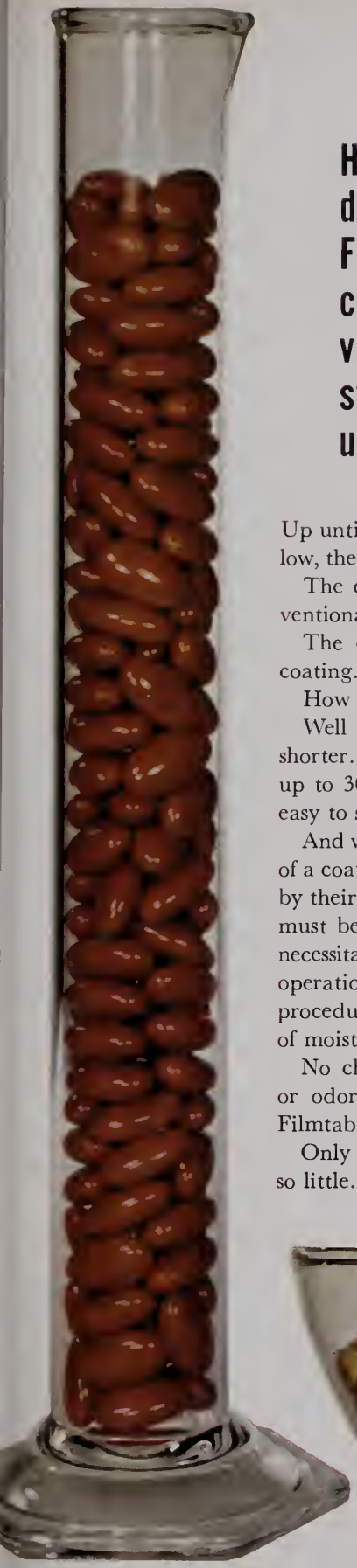
References: 1. David, N. A.; Porter, G. A., and Gray, R. H.: Monographs on Therapy 5:60 (Feb.) 1960. 2. Ford, R. V.: Current Therap. Res. 2:92 (Mar.) 1960.

Naturetin Squibb Benzydroflumethiazide

Naturetin c̄ K Squibb Benzydroflumethiazide with Potassium Chloride

SQUIBB

"NATURETIN" IS A SQUIBB TRADEMARK.



How do Filmtab® coated vitamins stack up?

Up until the moment we put the coatings on the Optilets® below, the tablets were all the same. Now, consider the differences.

The column on the left contains 125 Optilets with a conventional sugar coating.

The column on the right—125 Optilets with a Filmtab coating.

How do they stack up?

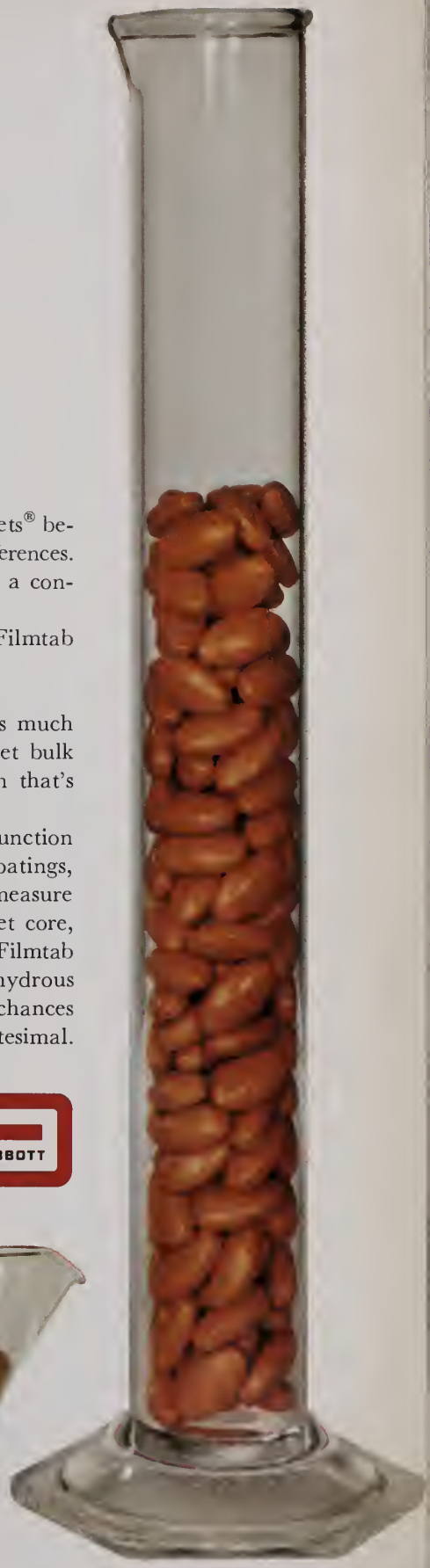
Well it's easy to see that the column on the right is much shorter. That's because the Filmtab coating cuts tablet bulk up to 30%. The result is a small, streamlined vitamin that's easy to swallow—the most compact tablet of its kind.

And when it comes to protecting potency (the main function of a coating), the Filmtab is in a class by itself. Sugar coatings, by their very nature, are aqueous solutions. Yet every measure must be taken to keep moisture out of the vital tablet core, necessitating "seal" coats which also increase bulk. The Filmtab operation, on the other hand, is essentially an anhydrous procedure. Seal coats are neither used nor needed. The chances of moisture being trapped inside the tablet are infinitesimal.

No chipping or breaking, no vitamin tastes or odors, no wasted vitamins—thanks to the Filmtab coating.

Only the Abbott Filmtab offers so much in so little.

ABBOTT



Filmtab—Film-sealed Tablets, Abbott.

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Abbott Vitamins Stay On the Table

MAINTENANCE FORMULAS

DAYTEENS™ To help insure optiomal nutrition in growing teenagers

Each Filmtab® represents:

Vitamin A	(5000 units) 1.5 mg.
Vitamin D	(1000 units) 25 mcg.
Thiamine Mononitrate (B_1)	2 mg.
Riboflavin (B_2)	2 mg.
Nicotinamide	20 mg.
Pyridoxine Hydrochloride	0.5 mg.
Cobalamin (Vitamin B_{12})	2 mcg.
Calcium Pantothenate	5 mg.
Ascorbic Acid (C)	50 mg.
Iron (as sulfate)	10 mg.
Copper (as sulfate)	0.15 mg.
Iodine (as calcium iodate)	0.1 mg.
Manganese (as sulfate)	0.05 mg.
Magnesium (as oxide)	0.15 mg.
Calcium (as phosphate)	250 mg.
Phosphorus (as calcium phosphate)	193 mg.

In table bottles of 100, bottles of 250 & 1000

DAYALETS® Extra-potent maintenance formulas, ideal for the nutritionally "run-down"

Each Filmtab® represents:

Vitamin A	3 mg. (10,000 units)
Vitamin D	25 mcg. (1000 units)
Thiamine Mononitrate	5 mg.
Riboflavin	5 mg.
Nicotinamide	25 mg.
Pyridoxine Hydrochloride	2 mg.
Cobalamin (Vitamin B_{12})	2 mcg.
Calcium Pantothenate	5 mg.
Ascorbic Acid	100 mg.

In table bottles of 100, bottles of 50, 250 & 1000

DAYALETS-M® Each Filmtab represents all the vitamins of Dayalets plus the following:

Iron (as sulfate)	10 mg.
Copper (as sulfate)	1 mg.
Iodine (as calcium iodate)	0.15 mg.
Cobalt (as sulfate)	0.1 mg.
Manganese (as sulfate)	1 mg.
Magnesium (as oxide)	5 mg.
Zinc (as sulfate)	1.5 mg.
Molybdenum (as sodium molybdate)	0.2 mg.

In table bottles of 100 & 250, bottles of 1000

...in attractive daily-reminder table-bottles

THERAPEUTIC FORMULAS

OPTILETS® Therapeutic formulas for more severe deficiencies—illness, infection, etc.

Each Filmtab® represents:

Vitamin A	7.5 mg. (25,000 units)
Vitamin D	25 mcg. (1000 units)
Thiamine Hydrochloride	10 mg.
Riboflavin	5 mg.
Nicotinamide	100 mg.
Pyridoxine Hydrochloride	5 mg.
Cobalamin (Vitamin B_{12})	6 mcg.
Calcium Pantothenate	20 mg.
Ascorbic Acid	200 mg.

In table bottles of 30 & 100, bottles of 1000

OPTILETS-M® Each Filmtab represents all the vitamins of Optilets plus the following:

Iron (as sulfate)	10 mg.
Copper (as sulfate)	1 mg.
Iodine (as calcium iodate)	0.15 mg.
Cobalt (as sulfate)	0.1 mg.
Manganese (as sulfate)	1 mg.
Magnesium (as oxide)	5 mg.
Zinc (as sulfate)	1.5 mg.
Molybdenum (as sodium molybdate)	0.2 mg.

In table bottles of 30 & 100, bottles of 1000

SUR-BEX® WITH C Therapeutic B-complex with C, for convalescence, stress, post-surgery.

Each Filmtab® represents:

Thiamine Mononitrate	6 mg.
Riboflavin	6 mg.
Nicotinamide	30 mg.
Pyridoxine Hydrochloride	2.5 mg.
Cobalamin (Vitamin B_{12})	2 mcg.
Calcium Pantothenate	10 mg.
Ascorbic Acid	150 mg.
Desiccated Liver, N.F.	150 mg.
Liver Fraction 2, N.F.	150 mg.
Brewer's Yeast Dried	150 mg.

In table bottles of 60, bottles of 100, 500 & 1000

ABBOTT

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VITAMINS BY ABBOTT

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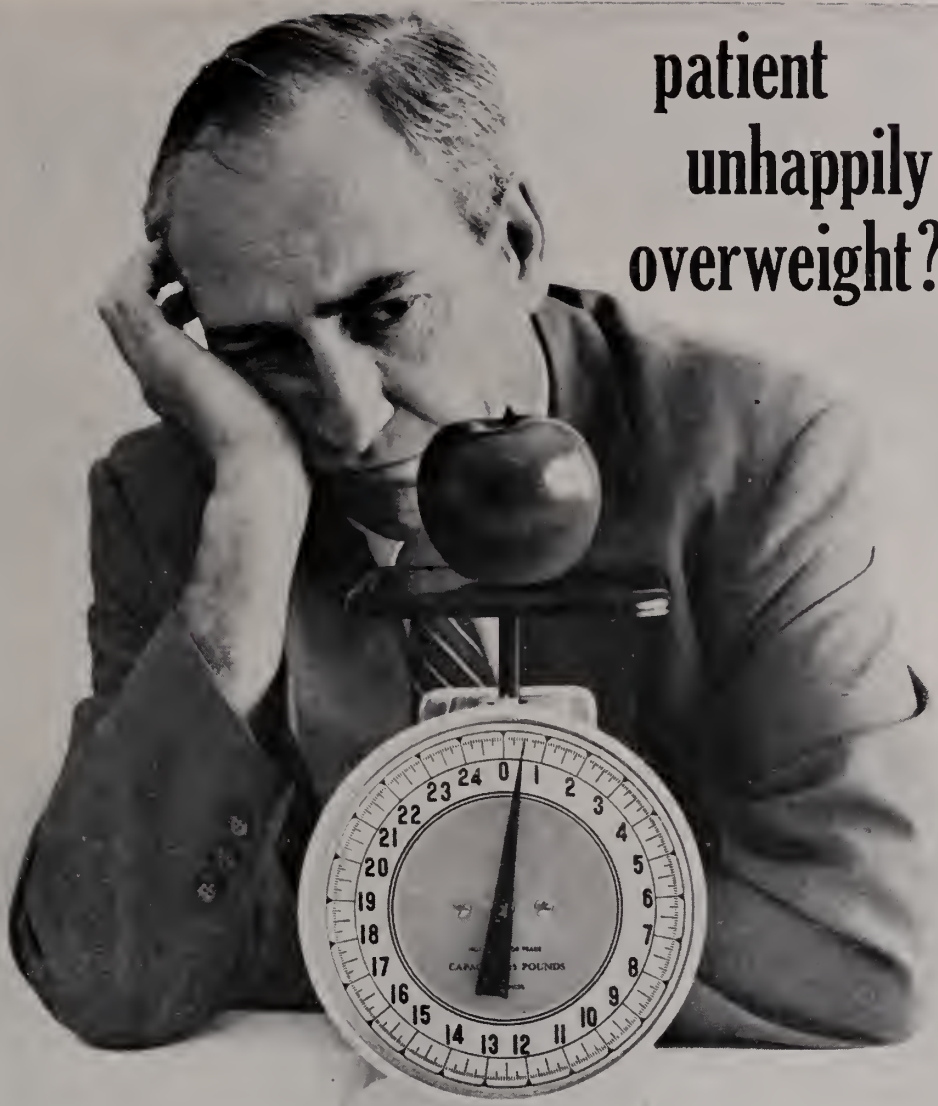

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Supplied: Tablets 5 mg., scored. Bottles of 100 and 1000.

[1] Douglas, H. S.: West. J. Surg. 59:238 (May) 1951.

BURROUGHS WELLCOME & CO. (U. S. A.) INC., Tuckahoe, New York

Theragran®

SQUIBB VITAMINS FOR THERAPY

For your patients with infections or other illnesses who need therapeutic vitamin support. Each Theragran supplies the essential vitamins in truly therapeutic amounts:

Vitamin A	25,000 U.S.P. Units
Vitamin D	1,000 U.S.P. Units
Thiamine Mononitrate	10 mg.
Riboflavin	10 mg.
Niacinamide	100 mg.
Vitamin C	200 mg.
Pyridoxine Hydrochloride	5 mg.
Calcium Pantothenate	20 mg.
Vitamin B_{12}	5 mcg.

SQUIBB *Squibb Quality—the Priceless Ingredient*

'Theragran'® is a Squibb trademark

"nutrition...present as a modifying or complicating factor in nearly every illness or disease state"[1]

1. Youmans, J. B.: Am. J. Med. 25:659 (Nov.) 1958

cardiac diseases "Who can say, for example, whether the patient chronically ill with myocardial failure may not have a poorer myocardium because of a moderate deficiency in the vitamin B-complex? Something is known of the relationship of vitamin C to the intercellular ground substance and repair of tissues. One may speculate upon the effects of a deficiency of this vitamin, short of scurvy, upon the tissues in chronic disease."[2] 2. Kampmeier, R. H.: Am. J. Med. 25:662 (Nov.) 1958.

arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]

3. Fernandez-Herlihy, L: Lahey Clinic Bull. 11:12 (July-Sept.) 1958.

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.: Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57.

degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser, W., and Fong, T.C.C. in Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]

8. Duncan G. G.: Diseases of Metabolism 4th edition W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958.

FOR FULL INFORMATION SEE YOUR SQUIBB PRODUCT REFERENCE OR PRODUCT BRIEF.

a new diuretic with an unsurpassed faculty for salt excretion

as salt goes, so goes edema

Robins' new NaClex is a potent, oral, non-mercurial diuretic that reduces edema by applying the basic principle that "increased urine volume and loss of body weight are proportional to and the osmotic consequences of loss of ions."[1] NaClex limits the reabsorption of sodium and chloride ions in the renal proximal tubules with a relative sparing of potassium. The body's homeostatic mechanism responds by increasing the excretion of excess extracellular water. Thus the NaClex-induced removal of salt leads to a reduction of edema.

a unique chemical structure:

NaClex (benzthiazide) is a new molecule which provides a "pronounced increase in diuretic potency"[2] over its antecedent sulfonamide compound. On a practical, clinical basis it is unsurpassed in diuretic potency.

NaClex produces diuresis, weight loss, and symptomatic improvement in edema associated with various conditions. It also has antihypertensive properties and may be used alone in mild hypertension or with other antihypertensive drugs in severer cases.

Available in 50 mg. tablets. Literature on request. Sold in Canada under the tradename EXNA. 1. Pitts, R. F., Am. J. Med., 24:745, 1958. 2. Ford, R. V., Cur. Ther. Res., 2:51, 1960.

A. H. ROBINS CO., INC., RICHMOND, 20, VA.

NaClex benzthiazide®

Put your low-back patient back on the payroll

Soma relieves stiffness —stops pain, too

YOUR CONCERN: Rapid relief from pain for your patient. Get him back to his normal activity, fast!

HOW SOMA HELPS: Soma provides direct pain relief while it relaxes muscle spasm.

YOUR RESULTS: With pain relieved, stiffness gone, your patient is soon restored to full activity—often in days instead of weeks.

Kestler reports in controlled study: *Average time for restoring patients to full activity: with Soma, 11.5 days; without Soma, 41 days.* (*J.A.M.A. Vol. 172, No. 18, April 30, 1960.*)

Soma is notably safe. Side effects are rare. Drowsiness may occur, but usually only in higher dosages. Soma is available in 350 mg. tablets. USUAL DOSAGE: 1 TABLET Q.I.D.

The muscle relaxant with an independent pain-relieving action

SOMA®

(carisoprodol, Wallace)

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with **tri-sulfanyl**

sulfonamide therapy at its best

rapid, maximum recovery assured... because of rapid, prolonged high blood and tissue levels of triple sulfa mixtures.

worry-free therapy... safer, because of high urine solubility that makes risk of crystalluria virtually negligible. As specific as antibiotics in many infections, but avoids certain of their complications. Danger of moniliasis, gastric upsets, bacterial resistance, sensitivity, blood dyscrasia, etc. reduced to a minimum.

the candy-like flavor of Tri-Sulfanyl Syrup appeals to infants, children, women, all patients.

economical... costs far less than broad spectrum antibiotics . . . more effective than single sulfas.

Each 5 cc. of Tri-Sulfanyl syrup (approx. one teaspoonful) or each tablet contains 7½ grains of sulfa compound:

Sulfadiazine	0.162 Gm.
Sulfamerazine	0.162 Gm.
Sulfathiazole	0.162 Gm.
Sodium Citrate*	0.375 Gm.

*not contained in Tri-Sulfanyl Tablets.

Tri-Sulfanyl Syrup: 4 oz., 16 oz., and gallon
Tri-Sulfanyl Tablets: 100 and 500

SAMPLES and new literature on request.

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In the opinion of the American Medical Association, more than 10,000 lives could have been saved in 1960 if the occupants of the cars involved in accidents had been wearing seat belts. Convinced of the value of seat belts, and dismayed by their lack of public acceptance, the A.M.A. in 1958 joined the National Safety Council and the U.S. Public Health Service in a campaign to sell the seat belt concept. A.M.A. participation in the project was suggested by its Committee on Medical Aspects of Automobile Injuries and Death, a group firmly sold on the importance of such belts in injury reduction. Smart drivers use seat belts . . . how about you?

SPECIAL PRICE TO DOCTORS

Reg. $10.95 IRVIN AUTO SEAT BELTS for $6.75
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Please Ship To: NAME_____

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The following Irvin Auto Seat Belts:
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BROWN__ FAWN__ BLUE__ GREEN__ GREY__ BLACK__

ROYAL BLUE__ MAROON__ FLAME RED__

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Aristocort

Triamcinolone has long since proved its unsurpassed efficacy and relative safety in the therapy of *rheumatoid arthritis, inflammatory and allergic dermatoses, bronchial asthma,* and all other conditions in which corticosteroids are indicated. But ARISTOCORT has also opened up new areas of therapy for selected patients who otherwise could not be given corticosteroids. Medicine is now in an era of "special-purpose" steroids.[1]

One outstanding advantage of triamcinolone is that it rarely produces edema and sodium retention.[1,2]

The clinical importance of this property cannot be overemphasized in treating certain types of patients. McGavack and associates[3] have reported the beneficial results with ARISTOCORT in patients with existing or impending cardiac failure, and those with obesity associated with lymphedema. Triamcinolone, in contrast to most other steroids, is not contraindicated in the presence of edema or impending cardiac decompensation.[3]

Hollander[1] points out the superiority of triamcinolone in not causing mental stimulation, increased appetite and weight gain, compared to other steroids which produce these effects in varying degrees. And McGavack,[2] in a comparative tabulation of steroid side effects, indicates that triamcinolone does not produce the increased appetite, insomnia, and psychic disturbances associated with other newer steroids.

ARISTOCORT can thus be advantageous for patients requiring corticosteroids whose appetites should not be stimulated, and for those who are already overweight or should not gain weight. Likewise, ARISTOCORT is suitable for the many patients with emotional and nervous disorders who should not be subjected to psychic stimulation. Furthermore, ARISTOCORT Triamcinolone, in effective doses, showed a low incidence of side reactions and is a steroid of choice for treating the older patient in whom salt and water retention may cause serious damage.[2]

References: 1. Hollander, J. L.: *J.A.M.A.* 172:306 (Jan. 23) 1960. 2. McGavack, T. H.: *Nebraska M. J.* 44:377 (Aug.) 1959. 3. McGavack, T. H.; Kao, K. Y. T.; Leake, D. A.; Bauer, H. G., and Berger, H. E.: *Am. J. M. Sc.* 236:720 (Dec.) 1958.

Precautions: Collateral hormonal effects generally associated with corticosteroids may be induced. These include Cushingoid manifestations and muscle weakness. However, sodium and potassium retention, edema, weight gain, psychic aberration and hypertension are exceedingly rare. Dosage should be individualized and kept at the lowest level needed to control symptoms. It should not exceed 36 mg. daily without potassium supplementation. Drug should not be withdrawn abruptly. Contraindicated in herpes simplex and chicken pox.

Supplied: Scored tablets—1 mg. (yellow); 2 mg. (pink); 4 mg. (white); 16 mg. (white).

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Dependable
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Professional confidence in the uniformity, potency and purity of Bayer Aspirin is evidenced by ever increasing recommendation. Today Bayer Aspirin is the most widely accepted brand of analgesic in the world.

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in upper respiratory infections

HASACODE®

* Quiets the overactive cough reflex
* Relieves aches and fever
* Sedates the anxious patient
* Handy tablet form

COMPOSITION: Each tablet contains:

Acetylsalicylic Acid	2½ grains
Acetophenetidin (Phenacetin)	2½ grains
Phenobarbital	¼ grain
Codeine Phosphate	¼ grain
Hyoscyamus Alkaloids	.0337 mg.

DOSE: One or two tablets every 3 or 4 hours, as required. Not more than 8 tablets should be taken in 24 hours. WARNING: *may be habit forming.*

also HASACODE "STRONG"

Same formula as HASACODE, but with ½ grain codeine phosphate. For use where relief of pain is the primary target. DOSE: As for HASACODE.

And for relief of less severe type of respiratory infection:

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Same formula as HASACODE, but without codeine phosphate. DOSE: As for HASACODE.

SUPPLIED: All forms available in bottles of 100 and 500 tablets.

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IN COLDS AND SINUSITIS— THE RIGHT AMOUNT OF "INNER SPACE" RIGHT AWAY

Neo-Synephrine hydrochloride relieves the boggy feeling of colds immediately and safely, without causing systemic toxicity or chemical harm to nasal membranes. Turbinates shrink, sinus ostia open, ventilation and drainage resume, and mouth-breathing is no longer necessary.

Gentle Neo-Synephrine shrinks nasal membranes for from two to three hours without stinging or harming delicate respiratory tissues. Post-therapeutic turgescence is minimal. Neo-Synephrine does not lose its effectiveness with repeated applications nor does it cause central nervous stimulation, jitters, insomnia or tachycardia.

Neo-Synephrine solutions and sprays produce shrinkage of tissue without interfering with ciliary activity or the protective mucous blanket.

For wide latitude of effective and safe treatment, Neo-Synephrine hydrochloride is available in nasal sprays for adults and children; in solutions from ⅛% to 1%; and in aromatic solution and water soluble jelly.

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NEO-SYNEPHRINE®
(Brand of phenylephrine hydrochloride)
hydrochloride
NASAL SOLUTIONS AND SPRAYS

when the need
for iron is acute . . .

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EFFECTIVE ANTIHISTAMINE-DECONGESTANT ACTION

COVANAMINE'S combination of two antihistamines and two decongestants—shrinks swollen turbinates—opens blocked ostia—promotes drainage—reestablishes patency—in the treatment of common colds, rhinitis, sinusitis, nasal allergies and post nasal drip.

Constant therapeutic levels are maintained by COVANAMINE'S Sustained Action Tablets which meter out the active ingredients . . . with minimal side effects, less drowsiness.

COVANAMINE(TM) Sustained Action Tablets

Also available as Black Cherry Flavored COVANAMINE LIQUID; COVANAMINE EXPECTORANT provides the liquid formula plus glyceryl guaiacolate.

Each Sustained Action (continuous release) COVANAMINE tablet contains: phenylephrine HCl 15 mg., phenylpropanolamine HCl 25 mg., Chlorpheniramine maleate 4 mg., and pyrilamine maleate 25 mg.

COVANAMINE LIQUID provides ¼ the tablet formula in each 5 ml. teaspoon.

COVANAMINE EXPECTORANT provides the liquid formula plus glyceryl guaiacolate 100 mg. per teaspoon.

Dosage: Tablets: Adults—1 tablet (swallowed without chewing) morning, mid-afternoon and at bedtime; Children, 6 to 12 years—½ tablet. Liquid and Expectorant: Adults—2 teaspoonfuls every four hours. Children 6 to 12 years—1 teaspoonful every four hours; 1 to 6 years—½ teaspoonful every four hours; under 1 year—¼ teaspoonful every four hours.

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"superior to aspirin"[2] and with a "higher 'therapeutic index'"[1]

In each yellow enteric-coated PABALATE *tablet:*

Sodium salicylate (5 gr.) 0.3 Gm.
Sodium para-aminobenzoate (5 gr.) 0.3 Gm.
Ascorbic acid.....50.0 mg.

When sodium should be avoided—

PABALATE®-SODIUM FREE

In each pink enteric-coated PABALATE-SODIUM FREE *tablet:*

Same formula as PABALATE, with sodium salts replaced by potassium salts.

When conservative steroid therapy is indicated—

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Pabalate with Hydrocortisone

In each light blue enteric-coated PABALATE-HC *tablet:*

Same formula as PABALATE-SODIUM FREE, plus hydrocortisone (alcohol) . . . 2.5 mg.

1. Barden, F. W., et al.: J. Maine M. A. 46:99, 1955.
2. Ford, R. A., and Blanchard, K.: Journal-Lancet 78:185, 1958.

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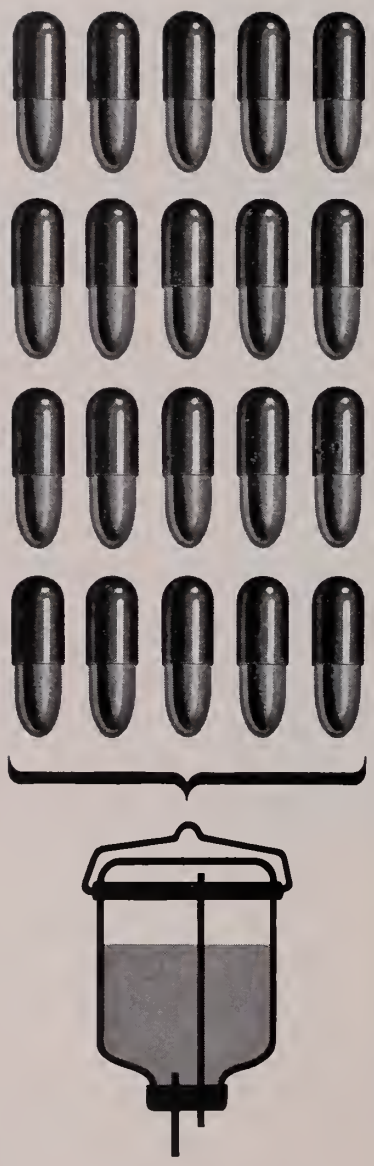

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For a rapid hematological response
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Two Pulvules® Trinsicon daily are capable of producing in ten days an Hb and RBC response comparable to that obtained after a transfusion of one pint of whole blood. For potent, complete anemia therapy, prescribe Trinsicon . . . *just 2 a day for all treatable anemias.*

Two Pulvules Trinsicon (daily dose) provide:

Special Liver-Stomach Concentrate, Lilly (containing Intrinsic Factor) . . . . 300 mg.

Vitamin B_{12} with Intrinsic Factor Concentrate, N.F. . . . . 1 N.F. unit (oral)

Cobalamin Concentrate, N.F., equivalent to Cobalamin . . . . . 15 mcg.
(The above three ingredients are clinically equivalent to 1½ N.F. units of APA potency.)

Ferrous Sulfate, Anhydrous . . . . . 600 mg.
(Equal to over 1 Gm. Ferrous Sulfate, U.S.P.)

Ascorbic Acid (Vitamin C) . . . . . 150 mg.

Folic Acid . . . . . 2 mg.

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MEDICAL
MONTHLY

March, 1961
Vol. 88, No. 3
Whole No. 1306

Guest Editorial . . . .

The Aerosol Bomb in Contemporary Thought

IN THE SOCIAL and economic upheaval of these troubled times, the informed observer cannot fail to see a disheartening paradox. It brings to mind the imaginary picture of a well-intentioned and compassionate motorist who comes on the scene of a highway accident and offers to rush one of the victims to the nearest hospital in his car. With single-minded solicitude for the object of his mission of mercy, he races along, oblivious to the damage or destruction he may inflict on those in his path and, finally, unable to control the vehicle, he crashes into an abutment and kills both himself and his injured passenger.

The comparison may seem absurd or exaggerated, yet to many students of the contemporary scene it is neither. The unhappy sequence with the injured man and his zealous rescuer might have consumed twenty minutes. The course of social, economic and political events must be measured in years. However commendable their motives may be, the spectacle of impatient reformers inexorably destroying the very things that they seek to preserve is the tragic paradox of our time. Serious students of the trends of today and of recent history who seek to restrain the headlong course of impatient reform, and to direct its course into less destructive channels are distinctly unpopular. They are angrily accused of guileful self-interest, and the vile epithet, "reactionary" is hurled at them from all sides. To be called a reactionary is by itself enough, in most of the present public mind, to dismiss, without a hearing, anything that such a person may have to say.

This last is especially true if considered attention to his words requires even a modest personal effort. It is so much easier to repeat, with an air of having originated them after profound intellectual exertion, the cliches and slogans of a generation of social psychologists and economic slight-of-hand artists. That ingenious modern gadget, the "aerosol bomb" that makes almost anything quick and easy has, figuratively speaking, become the principal medium of public education in this vital field. Much, if

not most of popular social, economic and political thought is dispensed in this way. It is carefully compounded to serve some immediate material purpose, attractively packaged, adroitly advertised, and is quickly and easily consumed just by pressing the button on top of the can! More of the same is cheap, and easy to get.

One unhappy result of preoccupation with this frothy mixture is that the voice of reason and judgment and of informed concern for the survival of freedom in the world, is lost in the lather and spray. One such voice, with no political axe to grind, no possible suspicion of self-interest, and no jockeying for position in the public eye, has stated the case for freedom, has analyzed the forces (both selfish and ingenuous) that are destroying it, and has charted a vigorous approach to its restoration; yet few have been privileged to hear it.

The essential purpose of an editorial is to invite the attention of its readers to events of interest and importance. Physicians are all too prone to look upon the growing specter of socialized medicine as the only aspect of the current upheaval that should or does concern them. Their position is seriously undermined by this restricted view because it is so easy to dismiss it as mere protective self-interest.

The issues are much broader than that and it behooves physicians, as it does all others, to be well informed about the problem as a whole. The event to which this editorial wishes to invite notice is a book entitled "The Constitution of Liberty".* Its author is Friedrich Hayek, an economist of acknowledged authority and a professor of social and moral science at the University of Chicago. Its four hundred pages cannot be distilled and concentrated, or dispensed as aerosol spray. It would do both the book and the reader an injustice to attempt a condensation or to select a few apt quotations. While Professor Hayek touches relatively briefly (though pungently) on socialized medicine, it is as only one aspect of the more comprehensive and destructive trends in social and political philosophy that he discusses with such unemotional brilliance and vividness. A stimulating experience awaits anyone who will take the time to read his book with the attention it deserves. It is a major contribution to contemporary thought, that is valid for every free nation of the world and especially for this nation to which so many look for leadership in the preservation of freedom.

C. Marshall Lee, Jr., M.D.

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*The University of Chicago Press 1960.

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Erythrocillin in the Treatment of Infections Due to Staphylococcus Aureus

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Erythrocillin, a mixture of erythromycin and penicillin, is used in the treatment of staphylococcus infections. Excellent results are reported.

MY COLLEAGUES and I[1] recently have reported some experimental studies that deal with the combined use of propionyl erythromycin and penicillin against Staphylococcus aureus isolated from several hundred patients under observation. We found a rather surprising enhancement between propionyl erythromycin and penicillin when equal amounts of those two antibiotics were used in combination. To this combination, consisting of equal parts of propionyl erythromycin and penicillin, we have ascribed the name "erythrocillin".

Experimental Studies

All strains of coagulase-positive Staphylococcus aureus that were isolated during the period of study were collected and phage typed. These organisms were tested against penicillin, streptomycin, novobiocin, vancomycin, oxytetracycline and propionyl erythromycin. Antibiotic sensitivity tests were carried out on blood agar streak plates containing serial twofold dilutions of the antibiotics. Trypticase soy agar (pH 7.3) was the base medium used, and to this was added 4 per cent defibrinated human blood. Plates containing penicillin and oxytetracycline were made up fresh the day of use; those containing novobiocin, vancomycin, propionyl erythromycin and dihydrostreptomycin were used within 24 hours after they had been poured. At the time of inoculation, plates were sectioned with a wax pencil so that six organisms could be streaked on each plate. The inoculum used consisted of one loopful (3 mm. diameter) from a 24-hour broth culture of heavy growth, being transferred to 5 cc. of broth. This was mixed well and then one loopful from this tube was used to streak on the blood agar plate. The inoculum used consisted of 500,000 to 750,000 organisms. Plates then were incubated for 20 to 24 hours at 37° C. The lowest antibiotic concentration showing no growth was recorded as the end-point. Plates containing combinations of antibiotics were prepared in the same manner as described above, except that two antibiotics in equal quantities were incorporated in the media.

Results

To date, sensitivity tests on 600 strains of Staphylococcus aureus have been made. The results of the sensitivity tests are shown in tables 1 and 2. An organism was considered to be sensitive if it required 3.125 mcg. or less per milliliter to inhibit. From examination of the data, it is evident that practically all (99.8 per cent) strains of Staphylococcus aureus isolated were sensitive to vancomycin. Likewise, all but a few strains (95.0 per cent) were sensitive to novobiocin. Although both vancomycin and novobiocin are highly active against most strains of Staphylococcus

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These studies were made possible by a grant from Eli Lilly and Company.

aureus, the use of these antibiotics is associated with a certain well established incidence of toxicity. Moreover, at the present

TABLE 1

ANTIBIOTIC SENSITIVITY TESTS ON 600 STRAINS OF STAPHYLOCOCCUS AUREUS

Antibiotic	1000 or More	100 to 500	6.25 to 50	3.125 or Less
Penicillin	.....	45	218	337
Dihydrostreptomycin	.....	261	104	235
Novobiocin	.....	.....	30	570
Vancomycin	.....	.....	1	599
Oxytetracycline	1	234	27	338
Propionyl erythromycin	93	4	1	502

TABLE 2

STAPHYLOCOCCUS AUREUS (600 STRAINS)

Antibiotic	Resistant	Sensitive*
Penicillin	43.8%	56.2%
Dihydrostreptomycin	60.8%	39.2%
Novobiocin	5.0%	95.0%
Vancomycin	0.2%	99.8%
Oxytetracycline	43.7%	56.3%
Propionyl erythromycin	16.3%	83.7%

*Growth inhibited by 3.125 or less mcg. or units per milliliter.

time vancomycin can be administered only by the parenteral route. Further examination of the data in table 2 reveals that in our laboratory erythromycin has retained its effectiveness in 83.7 per cent of strains of Staphylococcus aureus isolated. The fact remains, however, that the remaining 16.3 per cent of strains are resistant to propionyl erythromycin. Therefore, we directed our attention to a study of 87 strains of Staphylococcus aureus that were found to be resistant to greater than 1,000 mcg. of propionyl erythromycin per milliliter.

We have been impressed by the fact that resistance and sensitivity to propionyl erythromycin both appear to follow an almost "all-or-none" pattern. Of the 600 strains of Staphylococcus aureus tested, 495 required 0.39 mcg. per milliliter or less to inhibit, three strains required 0.78 mcg., one strain required 1.56 mcg., and three strains required 3.125 mcg. per milliliter. Of 98 strains of Staphylococcus aureus that were considered resistant to propionyl erythromycin, 93 required 1,000 mcg. or more of this antibiotic per milliliter to inhibit, three strains required 500 mcg., one strain required 250 mcg., and one strain required 25 mcg. per milliliter to inhibit.

As stated above, we turned our interest to a study of the effectiveness of various combinations of antibiotics against the propionyl erythromycin-resistant staphylococci.

The 87 strains of Staphylococcus aureus that were resistant to both propionyl erythromycin and penicillin were tested against a combination of equal parts of propionyl erythromycin and penicillin. The results of these studies are shown in table 3. All 87

TABLE 3

ANTIBIOTIC REQUIREMENTS TO INHIBIT GROWTH OF 87 STRAINS OF STAPHYLOCOCCUS AUREUS

Amount of Antibiotic Required		Number of Strains of Staph. Aureus
Propionyl erythromycin (mcg./ml.)	>1000	87
Penicillin (units/ml.)	>100	30
	50	35
	25	14
	12.5	8
Propionyl erythromycin and penicillin combined (mcg. and units of each/ml.)	50	2
	6.25	3
	3.125	49
	1.56	31
	<0.78	2

strains required greater than 1,000 mcg. of propionyl erythromycin per milliliter to inhibit. The amount of penicillin required to inhibit was greater than 100 units per milli-

liter for 30 strains, 50 units for 35 strains, 25 units for 14 strains, and 12.5 units per milliliter for eight strains.

When these organisms were studied by the same technic described above, using a combination of equal parts of propionyl erythromycin and penicillin, 82 of the 87 strains were completely inhibited by 3.125 mcg. and units or less of the two antibiotics. Three strains were completely inhibited by 6.25 mcg. and units of the two antibiotics. Only 2 strains of Staphylococcus aureus required 50 mcg. and units of the two antibiotics per milliliter to inhibit. (See table 3.) Thus, a combination of propionyl erythromycin and penicillin in amounts that are easily attainable in the serum of patients using ordinary therapeutic doses of these antibiotics was found to be bactericidal for 85 of 87 strains of Staphylococcus aureus tested. This actually means that only two of 600 strains could not be inhibited with this combination of antibiotics.

In view of the rather striking evidence suggesting that a combination of propionyl erythromycin and penicillin was bactericidal for strains of Staphylococcus aureus known to be highly resistant to each of these antibiotics, it seemed appropriate to determine whether the serum of patients receiving this combination of antibiotics would show this effect. Studies were carried out using the tube dilution method to determine the antibacterial activity of serum of patients who were receiving penicillin alone or propionyl erythromycin alone or both of these antibiotics simultaneously. The serum of these patients was inoculated with resistant strains of Staphylococcus aureus and read after 22 to 24 hours incubation at 37° C. The final volume in each tube prior to incubation was 1.0 ml. The first tube contained undiluted serum. Subsequent dilutions of 1:2, 1:4, et cetera, were made by adding broth. An organism control and serum control were run with each test. The size of the inoculum was identical to that used for the plate method described above. The undiluted serum and the dilutions that were read as clear were subcultured on blood agar plates.

In this series of experiments the patients received two capsules of erythrocillin every six hours by the oral route. Each capsule contained 125 mg. of propionyl erythromycin and 125 mg. of V-Cillin K. After the patient had received multiple doses of 500 mg. of erythrocillin every six hours, serum was obtained one to two hours after the last dose and the serum was tested for antibacterial activity against strains of Staphylococcus aureus that had been found resistant to both antibiotics. The results of this study are shown in table 4. It is evident from examination of the data that good growth

TABLE 4

Serum Inhibition of Propionyl Erythromycin-Resistant Staphylococcus Aureus

Case	Staph. Aureus Strain	Antibiotic*	Control	Serum		
				Undiluted	1:2	1:4
1	#164	PE	Growth	Growth	Growth	Growth
2	#464	PE	Growth	Growth	Growth	Growth
3	#464	P	Growth	Growth	Growth	Growth
	#477	P	Growth	Growth	Growth	Growth
4	#464	P & PE	Growth	No growth	Few colonies	Growth
5	#464	P & PE	Growth	No growth	Few colonies	Growth
6	#532	P & PE	Growth	No growth	1 colony	38 colonies

*PE = propionyl erythromycin; P = penicillin.

occurred in the undiluted serum of patients receiving penicillin or propionyl erythromycin alone. The undiluted serum of all three patients who received the combination of these two antibiotics was found to be bactericidal for strains of Staphylococcus aureus that were highly resistant to either antibiotic used alone. In the serum diluted 1:2, a bacteriostatic effect was noted in all three. In one instance a bacteriostatic effect was noted in the serum diluted 1:4. These studies seemed to amply justify clinical trials of erythrocillin in the treatment of infections owing to Staphylococcus aureus.

Clinical Studies

To date, we have used the combinations of propionyl erythromycin and V-Cillin K (erythrocillin) in the treatment of 21 patients suffering with moderately severe to severe staphylococcal infections. The average daily dose used was 2 gm., administered in amounts of 2 capsules (500 mg.) of erythrocillin every six hours by the oral route. The duration of treatment varied, depending on the severity of the infection, from five to 17 days. For the purpose of analyzing the results of treatment, the conditions treated have been separated into three groups: (1) Furunculosis and carbuncles, (2) abscesses and cellulitis, and (3) miscellaneous infections.

Furunculosis and carbuncles—The eight patients in this group were suffering with single or multiple—and, in many instances, recurrent—furuncles and carbuncles. The results of treatment are shown in table 5. The ages of the patients in this group varied between six and 75 years. The average daily dose of erythrocillin was 2 gm. The duration of treatment varied with the severity of the lesion and the response. The longest period of treatment was 17 days and the shortest, six days. The results were considered good or excellent in all eight cases.

Abscesses and cellulitis—In seven patients treated with erythrocillin the diagnosis was either abscess or abscess with cellulitis. In table 6 the results are summarized. The average daily dose of the antibiotic combination in this group was 2 gm. per day. The duration of treatment varied from five to eight days. It is obvious that this type of lesion does not require as prolonged treatment as

TABLE 5

ERYTHROCILLIN—FURUNCULOSIS AND CARBUNCLES

Case	Age	Location of Lesion	Average Daily Dose	Number of Days Treated	Result
1	16	Hand and thigh	2 gm.	6	Completely healed by fourth day.
2	63	Scalp, eye, thigh and scrotum	2 gm.	17	Multiple furuncles and carbuncles of nine months' duration. All healed by eleventh day.
3	59	Arm	2 gm.	14	Completely recovered.
4	30	Finger and back	2 gm.	10	Furuncle healed on sixth day; carbuncle on ninth day. Excellent response.
5	6	Knee	2 gm.	6	Complete resolution of carbuncle and associated cellulitis in 3 days.
6	75	Chest wall	2 gm.	10	Complete recovery.
7	29	Thigh and popliteal area	2 gm.	15	Furuncle cleared on fourth day. Popliteal lesion drained surgically and healed.
8	32	Hand	2 gm.	6	Lesion completely healed on fourth day.

was often necessary in the group of patients suffering with recurrent and multiple furuncles and carbuncles. In all seven patients the clinical response was considered excellent and complete recovery occurred.

Miscellaneous infections—There were six patients treated in the group of miscellaneous infections owing to Staphylococcus aureus. The results of treatment are summarized in table 7. One of these patients (case 1) was a child suffering with a severe purulent pharyngitis, who had failed to respond to three days' therapy with propionyl erythromycin (Ilosone). His temperature ranged between 100° and 103° F. daily. Within 12 hours after treatment with erythrocillin was begun, his temperature reached normal, and complete recovery occurred. Another example of an overwhelming staphylococcal infection in which a gratifying result was obtained was case 6. In fact, this patient was the first treated with the combination of propionyl erythromycin and penicillin. The patient was a 17-year-old white male, admitted to the hospital with severe diabetic acidosis. He had a large car-

TABLE 6

ERYTHROCILLIN—ABSCESSES AND CELLULITIS

Case	Age	Location of Lesion	Average Daily Dose	Number of Days Treated	Result
1	16	Labia	2 gm.	5	Rapid resolution. Healed after three days' treatment.
2	75	Forearm and legs	2 gm.	7	Complete recovery.
3	32	Axilla	2 gm.	5	Recovery.
4	58	Thumb	2 gm.	5	Completely healed fifth day.
5	34	Breast	2 gm.	5	Complete resolution in five days.
6	51	Ankle	2 gm.	7	Complete resolution by seventh day.
7	65	Foot	2 gm.	8	Completely cleared.

TABLE 7

ERYTHROCILLIN—MISCELLANEOUS INFECTIONS

Case	Age	Diagnosis	Average Daily Dose	Number of Days Treated	Result
1	3	Purulent pharyngitis	2 gm.	6	Had not responded to erythromycin. Afebrile in twelve hours. Complete recovery.
2	47	Infected burn	2 gm.	5	Recovery.
3	48	Postop. wound infection (bunionectomy)	2 gm.	12	Excellent result. Hospital-acquired infection.
4	25	Infected cyst, eyelid	2 gm.	5	Completely healed by fifth day.
5	46	Postop. wound infection	2 gm.	5	Completely cleared by fifth day.
6	17	Diabetic acidosis, carbuncle, pneumonia, staph. septicemia	2 gm.	14	Remarkable recovery. Dismissed from hospital after seven days' treatment.

*For first twenty-four hours, erythromycin I.V. and procaine penicillin I.M.

buncle on the neck, pneumonia in the left lower lobe, and staphylococcal septicemia. He was critically ill and unable to swallow. For the first 24 hours he received erythromycin by the intravenous route and procaine penicillin by the intramuscular route. Within 24 hours he was able to take erythrocillin orally, and the medication was continued by the oral route throughout his recovery. We experienced no therapeutic failures in this group of patients.

Reactions of toxicity—In the 21 patients who have received erythrocillin to date, we have noted no untoward toxic reactions. However, it should be emphasized that all of these patients were asked, before the administration of erythrocillin was begun, if they had had previous sensitivity to penicillin. Patients who have a history of sensitivity to penicillin should not, of course, receive erythrocillin. At the time of this writing, patients who are known to be allergic to penicillin and who are suffering with severe staphylococcal infections probably would best be treated with either novobiocin or vancomycin.

Comment

This report on the clinical use of erythrocillin, because of the limited number of patients treated, must be considered as only a preliminary one. Antibiotic sensitivity studies were made on all strains of coagulase-positive Staphylococcus aureus isolated from these 21 patients. Some strains were sensitive to propionyl erythromycin but resistant to penicillin. Some strains were sensitive to both of these antibiotics. As I have indicated, approximately 56 per cent of 600 strains of Staphylococcus aureus studied were sensitive to penicillin and 83 per cent were sensitive to propionyl erythromycin. It is not surprising, therefore, that in only two of the 21 clinical cases reported above were the organisms isolated resistant to both propionyl erythromycin and penicillin. These organisms were those isolated in case 7, table 5, and in case 7, table 6. In the former case, the organism isolated required greater than 1,000 mcg. of propionyl erythromycin per milliliter to inhibit and 50 units of penicillin per milliliter. When equal parts of the two antibiotics were employed, 3.125 mcg. and units of the combination per milliliter was bactericidal. The strain of Staphylococcus aureus isolated in case 7, table 6, required greater than 1,000 mcg. of propionyl and 50 units of penicillin per milliliter to inhibit, whereas a combination of the two antibiotics in amounts of 1.56 mcg. and units per milliliter completely inhibited the growth of the organism. Erythrocillin was used effectively in the treatment of both of these patients. Although further extensive clinical trials will be required in order to finally assess the effectiveness of erythrocillin, our preliminary studies have been quite gratifying.

Conclusions

Six hundred strains of coagulase-positive Staphylococcus aureus freshly isolated from patients have been tested against a variety of antibiotics in common use. Eighty-three per cent of the isolates were sensitive to propionyl erythromycin. Only 56 per cent were sensitive to penicillin. An attempt was made to evaluate the effectiveness of various antibiotic combinations against the 87 of these 600 strains that were resistant to both propionyl erythromycin and penicillin. A combination of equal parts of these latter two antibiotics was found to be bactericidal for 85 of the 87 strains tested. Furthermore, the serum of patients receiving this antibiotic combination was found to inhibit the growth of these highly resistant organisms. To this combination of propionyl erythromycin and penicillin, we have ascribed the name "erythrocillin." Clinical trials to date are only preliminary. However, we have used erythrocillin in the treatment of 21 patients suffering with moderately severe or severe infections owing to Staphylococcus aureus. The organisms isolated from two of these patients were completely resistant to both propionyl erythromycin and penicillin

when used alone. When a combination of these (erythrocillin) was employed, growth of the organisms could be completely inhibited by amounts of the antibiotics that could be attained with ease in the patients' serum. The clinical response of all of this small group of patients was eminently satisfactory.

Reference

1. Herrell, Wallace E.; Balows, Albert; and Becker, Jean: Erythrocillin: A New Approach to the Problem of Antibiotic-resistant Staphylococci. Antibiot. Med. & Clin. Therapy 8: 637-642 (Oct.) 1960.

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New Wrinkle in Baby Food

Concentrated dry frozen baby food has received the approval of three medical researchers reporting in a publication of the American Medical Association. Drs. Gerard J. Van Leeuwen, Emily J. Guyer, and Robert L. Jackson, Department of Pediatrics, University of Missouri School of Medicine, Columbia, Mo., reported in January American Journal of Diseases of Children on a study in which a variety of the frozen concentrated foods were fed to 49 infants.

"The food was accepted by all infants in the study and was preferred by mothers who had had experience with other strained foods."

"None of the infants developed diarrhea, constipation, or allergic manifestations as a result of ingestion of the food.

"Without exception, all the mothers stated that this new baby food appeared fresher and more appetizing. All preferred this new product with respect to ease of preparation and storage. Most mothers agreed that the small packages of frozen foods allowed them to feed a greater variety of foods to their babies."

The babies were started on the frozen foods at four months. A complete physical examination was done at monthly intervals. The infants' growth was charted and compared favorably with the norm.

Three infants born prematurely also were given the frozen foods and their growth was satisfactory.

At six months, most of the infants were taking about 1½ units of the frozen food, the equivalent of 8 to 12 ounces of strained foods.

The processing by which these foods are prepared include the limited application of heat, reduction of moisture, and freezing. No added colors, flavors, preservatives, or fortifying nutrients are used in the process.

Studies conducted at the Wisconsin Alumni Research Foundation indicated that nutrients were effectively retained in processing and in storage at freezing temperatures, the authors also reported.

Bacteriologic studies were conducted at the University of Chicago and no food poisoning organisms were found in any of the specimens studied. This study, conducted by Dr. Gail Dack, also showed that the frozen food could be stored safely in a deep freeze for about one year and in a refrigerator for one month.

The Treatment of Acute Pulmonary Edema

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The urgency of this medical emergency demands prompt and vigorous treatment with measures of immediate benefit.

NORMALLY, the inflow of blood into the lungs is equal to the inflow of the bronchial arteries and the pulmonary arteries, and the outflow of fluid in the lungs is equal to the outflow of lymph in the lymphatics which empty into the superior venae cava system and the outflow of the pulmonary veins which empty into the left atrium. The lymphatics are said to be responsible for only a small part of the total outflow. In acute pulmonary edema transudation from pulmonary capillaries exceeds the reabsorptive capacity of the pulmonary lymphatics (Altschule). In this condition the difference between transudation and reabsorption is large and comes on quickly.

There are three features that distinguish this type of edema from peripheral edema. These differences are (a) pulmonary edema interferes with the uptake of oxygen in the lung and hence may lead to a dangerous systemic oxygen lack, (b) vascular pressures in the lung are more responsive to blood volume and blood flow increases than is the systemic vascular system, and (c) the course of acute pulmonary edema is short as compared to that of peripheral edema, hence the need of quick acting procedures in the former as compared to the latter. These three features and the increase in flow of blood into the lungs and the decrease of flow of fluid out of the lungs are believed to be extremely important features to keep in mind in the treatment of this condition.

This inbalance of inflow and outflow may been seen in many states but particularly in acute left ventricular failure, mitral stenosis, nephritis, both acute and chronic, toxemias of pregnancy, insulin shock, hypertensive crises from any cause, acute infectious disease particularly pneumonia, increased intracranial pressure, burns, irritant gases, drowning, pulmonary embolism, increased blood volume following intravenous fluids or transfusions and various toxic agents. It is interesting to note that shock may proceed or follow this condition. It is important also to remember that acute pulmonary edema is a symptom complex and is a complication rather than a primary disease. The underlying cause therefore must be known if specific means for its management are to be applied, i.e., atropine for parathion intoxication or surgical relief of increased intracranial pressure. The primary disease also greatly influences the prognosis of this condition. Patients developing acute pulmonary edema during the course of acute glomerular nephritis have a good outlook while the prognosis in a patient with an acute myocardial infarction would be poor.

The clinical course of acute pulmonary edema varies markedly. It may be very mild or rapidly fatal. Anxiety may or may not precede the onset. The condition usually comes on at night but not necessarily so; therefore paroxysmal nocturnal dyspnea is not a synonymous term. Characteristic findings are rapid onset with pallor, clammy skin, increased venous pressure in the neck

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veins, dyspnea, orthopnea, a rapid heart, no increase in weight, cough, and sputum usually in large amounts, and pink if blood is present. Wheezes and rhonchi or bubbling rales are heard. Shock may precede or follow the onset of an attack. An elevated temperature of 100° following an attack is not unusual. The symptoms and signs of the underlying disease complete the picture. Acute bronchitis and bronchial asthma are most commonly confused with this condition.

With these points in mind let us consider some of the agents which are commonly used in the treatment of acute pulmonary edema.

The ideal therapy of this condition would have no side effects of an ill nature and would promptly correct the underlying cause. Since such ideal procedures are not available, other methods of treatment must be utilized. The nearest approach to specific therapy in acute pulmonary edema is found in those cases associated with poisoning from anticholinesterase agents such as physostigmine, neostigmine and parathion and from muscarinic drugs such as pilocarpine and methalcholine. Here the primary defect is in the cholinergically innervated glands in the bronchial trees rather than increase in intracapillary pressure or decrease in the permeability of the capillary walls. Atropine blocks cholinergic nerve impulses, and ends the edema. It, of course, has no effect on the underlying cause and does not remove the edema which is already present.

When chlorine, phosgene or bromine irritate the bronchial tree, the mechanisms whereby pulmonary edema is produced is quite different from the agents just mentioned. In these conditions the edema is due to damage to capillary walls and atropine is ineffective. In burns of the respiratory tract atropine is of no value in therapy.

In the most commonly seen cases of acute pulmonary edema, therapy in addition to the use of oxygen in an attempt to control hypoxia is primarily aimed either at decreasing the pulmonary blood inflow, i.e., decreasing the venous return to the heart or at increasing fluid outflow from the lungs. In the former category should be placed rotating tourniquets, phlebotomy, positive pressure masks and relieving bronchospasm (Aminophylline). In the second category should be placed ganglion blocking agents and digitalis. Others believe salt restriction and mercurial diuretics also increase outflow from the lung. Obviously the over enthusiastic application of any agent which decreases blood flow to the heart could lead to shock. The action of morphine in this condition is unknown. It may be dangerous in bronchial asthma, severe pulmonary disease, hypofunction of the thyroid, liver, and adrenal cortex.

TABLE 1

Other Agents Used in Acute Pulmonary Edema Therapy.

I. Atropine
II. Ganglion Blocking Agents
  (a) Tetraethylammonium Bromide
  (b) Hexamethonium Bromide
  (c) Trimethaphan Camphor Sulfonate (Arfonad)
  (d) Azamethonium Dibromide
III. Positive Pressure Masks
IV. Antifoaming Agents
V. Tolazine (Priscoline)
VI. Isoprotenenal (Isuprel)

Prior to 1958 all agents listed in Table No. 1 were used except No. V. None except atropine have been used since 1958, as all other agents were found to be of very doubtful therapeutic value.

During the years 1957 and 1959, forty-nine cases of acute pulmonary edema were admitted to the Medical College of Virginia Hospitals. These cases were reviewed in an attempt to try to determine the value of the therapy used. To eliminate the effect of etiology on therapy all except those cases due to left ventricular failure were excluded. Furthermore, only the cases which met all the limitations of the definition as given for this condition were included.

Thirty of the forty-nine cases were discarded leaving only nineteen cases which are the basis for this study, of this number twelve recovered and seven died. All who did not recover within five hours died regardless of medication ordered. It is difficult

TABLE 2

This Is a Summary of the Records of the Nineteen Patients Studied in This Report

Hospital Record Number	Age	Sex	Race	Morphine Sulphate	Oxygen	Rotating Tourniquets	Phlebotomy	Digitalis	Aminophylline	Mercurial Diuretics	Salt Restriction	Duration	Outcome
B-29-40-07	77	M	W	+	+			+		+		1 hour	D
B-28-29-50	73	M	C	+	+							¾ hour	R
B-27-80-35	85	F	W	+	+	+			+	+		1 hour	R
B-28-46-34	80	M	C	+	+	+		+				2 hours	D
A-03-79-03	48	M	W	+	+	+		+				2½ hours	R
B-28-44-05	63	F	C	+	+			+	+	+		3 hours	R
B-30-33-64	80	M	C	+	+	+			+	+	+	24 hours	D
B-32-65-33	52	M	W	+	+	+	+	+		+	+	48 hours	D
B-32-45-21	81	M	C	+	+	+		+				1 hour	D
B-31-30-26	78	M	W	+	+	+			+			3 hours	R
B-33-46-31	54	M	W	+	+	+		+	+			1 hour	R
B-28-02-01	45	M	C	+		+		+	+		+	1½ hours	R
B-31-03-16	72	M	C	+	+	+		+				6 hours	D
B-27-74-41	78	M	W	+		+		+				5 hours	D
B-29-53-73	47	M	W	+	+			+	+	+	+	1½ hours	R
B-13-71-23	49	M	W	+	+	+			+	+	+	3 hours	R
B-31-18-90	50	M	C	+	+			+	+	+	+	2 hours	R
B-28-69-31	60	F	C	+	+	+			+			1½ hours	R
B-26-38-07	60	F	W		+	+						1 hour	R

to see how sodium chloride restriction could be of any benefit in the control of the acute symptoms since its effectiveness does not begin for at least forty-eight hours. It of course must be limited to one gram intake daily. Although mercurial diuretics are much faster in acting, the same reasoning could also be applied to their use. Their action is too slow. Aminophylline intravenously acts quickly. It relieves bronchial spasm and thereby increases the exchange of gases in the lungs. This drug also decreases intrathoracic negative pressure and thereby decreases the inflow of blood into the lungs. These assumptions cannot be disproved by this study. Digitalis was given to twelve patients, six died and six recovered. This drug is indicated in acute left ventricular failure, particularly if associated with a rapid ectopic atrial rhythm not due to digitalis. In almost all of these cases it was given before the patient entered the hospital. The dosage given was a blind procedure under these circumstances and its immediate value in these patients is questionable. Phlebotomy was done only once. This procedure is rarely used now. Rotating tourniquets have practically the same effect. No conclusion can be drawn from its use (phlebotomy) here. This leaves only three procedures, rotating tourniquets, oxygen and morphine sulphate to be considered. Oxygen was never given in long enough periods to cause any ill effects. These three agents were thought to

be beneficial even though exact proof is lacking.

In determining the value of therapy in this condition it should be remembered that at least three factors promote spontaneous recovery. The patient sits up. This position increases fluid in the dependent parts of the body and decreases it in the lungs. The lungs are wet, this raise intrathoracic pressure and retards the pulmonary venous inflow, and lastly, the patient coughs up considerable sputum which may be considered a self induced venesection. Furthermore, these patients are too sick to have exacting hemodynamic studies done on them, consequently the value or lack of value of therapeutic procedures will have to depend on clinical impressions.

In conclusion, acute pulmonary edema is an emergency situation requiring therapy of immediate benefit. It is our opinion that most patients with this condition are often over-treated with therapeutic endeavors which are relatively useless at the moment. This is a bother to the patient, a burden on hospital facilities and personnel, and may lead to disturbing and unnecessary complications. Rest, oxygen, sedatives, narcotics, and rotating tourniquets are measures of immediate benefit. Measures such as Atropine, removal of increased intracranial pressure, ganglion blocking agents (hypertensive crises), and digitalis preparations intravenously are useful in specific situations. Diuretics and salt restricting diets never have any place in the treatment of acute pulmonary edema as an emergency situation. Such procedures may be useful in the long-term management of these cases, but their introduction into the treatment of the acute condition is unnecessary and unwarranted.

References

1. Altschule, M. D.: Modern Medical Monographs. Acute Pulmonary Edema, New York, 1954 Grune & Stratton, Inc.
2. Barach, A. L., Martin, J., and Eckman: Positive Pressure Respiration and its Application to the Treatment of Acute Pulmonary Edema. Ann. Int. Med. 12: 754, 1938.
3. Ellestad, M. H. and Olson, W. H.: The Use of Intravenous Ganglionic Blocking Agents for Acute Pulmonary Edema, J. A. M. A. 161: 49-49, 1956.
4. Luisada, A. A., Goldman, M. A., and Weyl, R.: Alcohol Vapor by Inhalation in the Treatment of Acute Pulmonary Edema. Circulation 5: 363, 1942.
5. Gootnick, A., Lipson, H. I., and Turbin, J.: Inhalation of Ethyl Alcohol for Pulmonary Edema. New England J. Med., 245: 842, 1951.

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No Additional Vitamins Needed

The human body does not need any more vitamins in the cold of winter than in the heat of summer, according to a spokesman for the American Medical Association.

"The basic need for nutrients is no different in the winter than during the summer," Philip L. White, Sc.D., director, department of foods and nutrition, said in the February A.M.A. magazine, Today's Health.

"More energy is needed to help keep the body warm, but the difference is very slight. It has been claimed that large amounts of vitamin C will help protect against flu and the common cold, but there is no good medical evidence in support of this.

The Responsibility of the General Practitioner in Pediatric Surgical Problems

Early Diagnosis and Pre-Operative Management

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Early, accurate diagnosis is needed for the successful treatment of surgical problems in the very young. In many cases it is the general practitioner who is responsible for this diagnosis.

THE SPECTACULAR STRIDES which have been achieved in pediatric surgery in the last twenty years demand a change from what were commonly accepted attitudes toward surgery in infants and children. No physician can now rationalize unsuccessful treatment of infants with such worn excuses as, "the infant was too small for operation", or "there was probably something else wrong anyway". Whereas twenty years ago esophageal atresia was consistently fatal, today in many hospitals over half of the infants with this serious abnormality are expected to survive. Good results such as these are, of course, not uniform throughout, but parents in Virginia should expect the same excellent chance for their infants as parents anywhere else. Much improvement can be expected from the development of regional pediatric units, which, with special facilities, equipment, and specially trained nursing and ancillary personnel, will have increasingly better results with the relatively uncommon problems. But equally important in assuring a better outlook for all pediatric surgical patients is the responsibility of the general practitioner—that of diagnosis. As Potts has stated[1] ". . . it is just as important to recognize a surgical problem as to treat it. . . . Obstetricians, pediatricians, and generalists are the first to see the deformed or surgically ill child, and upon them rests the responsibility of securing adequate care at the proper time." The importance of early diagnosis is also stressed by a recent report of Clatworthy[2] on congenital intestinal obstruction in which twenty-two out of fifty-six deaths could be attributed primarily to delayed or inaccurate diagnosis. Proper care preoperatively, both what to do and what not to do, is tremendously important in determining the final result, and this, too, is often the responsibility of the general practitioner.

Respiratory Distress in the Newborn

Although only 5% of the respiratory problems in the newborn infant are surgical[3], this small group is disproportionately important in that these conditions are almost all correctable with early treatment, yet fatal if uncorrected. The surgical lesions most frequently cause obstruction to the respiratory tree or pressure upon the lungs, and are therefore characterized by dyspnea, rather than apnea, along with the cyanosis.

Diaphragmatic hernia in the newborn is often confused with hyaline membrane disease. The abdominal viscera herniate into the

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From Norfolk General-King's Daughters Children's Hospitals, DePaul Hospital, Norfolk, Virginia.

chest through a defect which is most frequently postero-lateral and on the left. As the gastrointestinal tract distends with swallowed air shortly after delivery, the lung is compressed and the mediastinum shifts. The infant has a rapidly increasing difficulty with respiration. On inspection one may detect a rocking type of respiration in which the abdomen will sink in with inspiration as the abdominal contents are sucked into the thorax, as contrasted with the normal protrusion of the abdomen with inspiration. The cardiac impulse may be displaced, and a tympanitic note be present on percussion. Due to the ease of transmission of sounds from the abdomen or the opposite lung, auscultatory findings may be confusing. With any suspicion an x-ray of the infant should always be obtained, and this should not be delayed on the faulty premise that the infant is too ill to obtain an x-ray.

Pre-operatively a #8 or #10 french catheter with several extra holes cut in the tip should be passed through the infant's nostril into the stomach. Gentle suction is applied to minimize the amount of air and secretions. If equipment giving low intermittent suction is not available, intermittent aspiration with a syringe is safer, and the tube is left open between aspirations. In this way, the distention of the bowel within the thorax is reduced. It is often necessary to employ positive pressure respiration by mask or intra-tracheal tube prior to surgical repair. With such urgent and proper measures these infants with congenital hernias of the diaphragm should have a good chance for survival.

Spontaneous pneumothorax is also seen in the newborn as a result of congenital lesions or over-expansion of the lung during delivery or resuscitation. Again it is mandatory to obtain an x-ray in the infant in whom such a problem is suspected.

Esophageal atresia is usually associated with a tracheo-esophageal fistula. In the most common type the upper esophagus ends blindly, while the lower esophagus is connected with the trachea. Mucous pools in the upper pouch of the esophagus with regurgitation back into the oropharynx and into the trachea. Gastric juices are vomited up through the fistula into the trachea. These infants can often be diagnosed in the first twelve hours even before feeding is attempted. The infant will be typically full of mucus and "frothy" very much as the patient with a cerebrovascular accident who cannot handle his mucus. With attempts at feeding the infant consistently regurgitates, and becomes cyanotic from aspiration. With the slightest suspicion of esophageal atresia an attempt should be made to pass a soft rubber catheter into the stomach. Since the tube may coil in the upper pouch of the esophagus, its position must be checked by the aspiration of gastric contents or by auscultation. A small amount of radio-opaque oil is injected into the upper pouch through the catheter under fluoroscopy and the diagnosis made certain.

Pre-operatively these infants should be placed with the head slightly elevated, and the catheter left in the upper pouch and attached to gentle suction. Increased humidity is supplied within an incubator. The infants need little, if any intravenous fluids, and nothing is given by mouth. If transportation to another hospital is necessary, several points have been stressed[4]: rapid treatment as an emergency with facilitation of transit through the usual delays of admitting and work-up; the desirability of the father, as well as a trained nurse, accompanying the infant in order to allow the operating surgeon to discuss the case thoroughly with a parent; the use of a portable incubator to maintain temperature and relative isolation. A small rubber bulb syringe suffices for the aspiration of secretions from the oropharynx during transit.

Vomiting in the Newborn

Intestinal obstruction in the newborn is a surgical condition whether it results from an atresia, malrotation, meconium ileus, or aganglionic megacolon. It should be remem-

bered that pyloric stenosis is rarely a cause of vomiting in the first days of life. The cardinal symptom of intestinal obstruction in the newborn is the vomiting of bile. While regurgitation of gastric contents is frequent, real bilious vomiting is rare in the full-term newborn. In one study[5] made of four thousand newborns, only two infants were found to vomit bile. Lloyd and Clatworthy[6] have stressed the increased incidence of unexplained maternal hydramnios in the presence of high intestinal obstruction.

On examination the infant may have some abdominal distention, although if the obstruction is high, distention may be lacking or confined only to the upper abdomen. Stools may be absent or scanty, but it is important to realize that some meconium may be passed by the infant with obstruction. Edema of the abdominal wall suggests perforation and peritonitis. The most helpful diagnostic aid is again the x-ray. From a plain x-ray of the abdomen the diagnosis is often obvious. Occasionally a barium enema is indicated and helpful, but upper gastrointestinal studies are contra-indicated.

Pre-operatively these infants should be handled very much as the esophageal atresia infant, but the position is level. Passage of a catheter into the stomach avoids the dangers of regurgitation and aspiration, one of the most frequent complications leading to death. The infant with repeated vomiting will require intravenous fluids which should be given with the utmost care and understanding.

Imperforate Anus

An imperforate anus is usually obvious to the inspection of the physician, but several variations may be confusing. It is now believed that this abnormality is really an "ectopic anus"[7] and results from a failure of the normal migration of the rectum. Two variations should be emphasized.

In the male without an external perineal fistula, a fistula to the urinary tract must be assumed to exist until proven otherwise. The urine should be carefully watched for signs of meconium staining. The usual upside-down x-ray[8] is taken to check the level of atresia, but while this is often helpful, it is far from infallible.

More difficult to recognize is the anteriorly displaced anus in male or female. In this condition an opening is present anterior to the sphincter muscle, an opening which very much resembles a small normal anus. (Fig. 1) Initially the infant may stool through it moderately well, but will not develop good control. A stricture is very likely to result with repeated fecal impactions. In the female additional future complications of vaginal soiling and obstetrical difficulty are probable.

Fig. 1. Anteriorly displaced anus in newborn male. The anal opening can be seen several centimeters anteriorly to the anal dimple formed by the puckering of the external anal sphincter. This infant also demonstrates a congenital median bar or skin fold.

Indeterminate Sex Problems

Early diagnosis is particularly important in any infant born with indeterminate sex. Nothing is so tragic as the child whose adolescent development shatteringly reverses his previous gender. Problems of this sort must be worked out definitively in the nursery, and in a sense are as urgent as any of the other surgical emergencies. A wait and see policy has no place here.

As a first step the female infants with adrenal hyperplasia causing a female pseudohemaphroditism can be eliminated along

with infants with changes in the external genitalia resulting from progesteroid administration to the mother during pregnancy. By sex chromatin studies, 17-keto steroid excretions, and careful examination these females can be properly classified and handled. In the remaining group careful endoscopic and radiological studies of the urogenital tract must be done. Where these studies are inconclusive laparotomy may be performed in a small group. Gross[9] has stressed the importance of never attempting corrective or excisional surgery at the time of exploration, but performing only an exploration and biopsy of gonadal tissue. Corrective surgery should wait for final biopsy report and a thorough discussion and planning by the physicians involved, the patient's family, and such legal and religious advisors as are needed.

Vomiting in the Infant

Vomiting in the infant several weeks old poses the question of hypertrophic pyloric stenosis. Some of the characteristic features in the history are almost always present—a first-born male, a positive family history, progressive projectile vomiting after feeding, and vomitus without bile. The diagnosis should be made before the infant is allowed to reach a state of dehydration and excessive weight loss.

On examination the upper abdomen appears fuller than the lower half, and peristaltic waves can be seen. Careful palpation for the enlarged pylorus or "the olive" is most important. Time, i.e., ten to fifteen minutes, and patience are essential, and good relaxation of the infant is necessary. The baby is best examined just after vomiting, or when relaxed sucking on a sugar nipple. The "olive" is deeper than usually expected, and it sometimes helps to support the baby in an upright position.

If the pylorus cannot be palpated after careful examination, but the history and other findings are highly suggestive, an upper gastrointestinal study should be done early before the baby becomes washed out. Any two of the three factors—history, "olive", or x-ray are enough to recommend operation.

Pre-operatively babies with pyloric stenosis should have a catheter passed into the stomach and the retained milk curds washed out.[10] The baby can then be tried on oral feedings of glucose and glucose-saline for hydration. Any anemia is corrected. Intravenous fluids are necessary in infants who are dehydrated or cannot be prepared with clear oral feedings. With early diagnosis extensive intravenous fluid therapy is not necessary.

Hernias in Infants and Children

Considerable misunderstanding still exists concerning the diagnosis of hernias in infants and children. Inguinal hernia in an infant is very dangerous. The rate of incarceration in inguinal hernia is high, and incarceration is very likely to occur when the baby has a respiratory infection or diarrhea and is a poor anesthetic risk. Testicular atrophy also may often occur with incarceration in infants. For these reasons early diagnosis and elective repair is vitally important. The physician usually has little trouble in obtaining a history from the mother that there was a bulge last week in the inguinal region or scrotum, or that the pubic regions looked unequal. The infant may have been fussier than usual or even appeared to be in pain. But on examination the physician cannot see any bulge nor can he reproduce it by making the baby cry. Too often the matter is left here. In the infant one can often not reproduce the hernial bulge, and the size of the inguinal ring is of little value in the diagnosis. Palpation of the cord for the sac is the most reliable diagnostic test. If one rolls the spermatic cord between the finger and the pubic bone and feels for the sac, it can usually be identified. While the normal cord feels like a single shoe string, the cord with the hernia sac is enlarged and thickened, and has a slipping or swishing sensation. This palpation

of the two surfaces of the sac slipping on each other has been called "the silk glove sign".[11] No additional proof of the mother's story is necessary to advise repair.

Hydoceles occurring beyond the newborn period can be assumed to be associated with an inguinal hernia, particularly if there is variation in the size of the swelling. They should be treated as a hernia with prompt elective repair.

At birth an omphalocele is usually obvious, but often there is some concern about what should be done pre-operatively. The exposed sac should be covered with moist saline or zephiran sponges. The infant should also have a catheter passed immediately into the stomach and connected to suction. This step greatly facilitates repair by preventing distention of the bowel.

Rectal Bleeding in Childhood

Rectal bleeding can conveniently be divided into two broad groups: first, the acute and serious hemorrhage with low hematocrit, signs or symptoms of impending shock, grossly bloody stools, or colicky pain—that is, a possible bleeding Meckel's diverticulum or an intussusception; and secondly, chronic bleeding without acute distress—that is, the possible anal fissure, polyp, or undetermined bleeding.

In the first group, the physician should remember the small total blood volume of the infant to realize the urgency of diagnosis and prompt replacement. Minutes make a difference. Routine studies must be rapidly completed to rule out a generalized disorder so that replacement can be begun. It is our impression that most infants with serious unexplained rectal bleeding should have laparotomy after proper study and preparation.

Diagnosis can be a little more leisurely in the child whose mother has seen a small amount of blood with the stool during the past few weeks, and whose hemoglobin and hematocrit is normal. A careful history is very helpful—bright or dark blood, blood in or on the stool, blood dripping from anus without a bowel movement, pain with defecation. The abdomen is palpated, particularly for the fecal masses so often found with fissures and constipation. The anus is inspected for fissures. Rectal examination should always be done to rule out a palpable polyp or demonstrate a hidden fissure. Very often in the course of these examinations the cause will become evident. The lengths to which investigation for rectal bleeding should be carried depend to a great degree upon the age of the child and the type of bleeding.

Abdominal Pain

One of the most complicated and yet frequent complaints in pediatric surgery is abdominal pain. Two conditions producing pain which should be diagnosed early are intussusception and appendicitis.

Intussusception usually occurs in the healthy infant of three to eleven months,[12] though it may occur at other ages. Characteristically it begins with a sudden onset, which the mother can often define to the minute, of colicky pain interspersed with periods of complete relief. Gradually the pain recurs more frequently. Vomiting occurs early and frequently.

The physical examination of the baby is of prime importance. If the abdomen is to be satisfactorily examined, the baby must be relaxed. If the baby is uncooperative, as they often are, sedation must be used in order to rule in or out a palpable mass which is present in 85% plus of cases. Rectal examination is done in order to obtain some stool to check for blood. Long before the "currant jelly" stool is passed one finds a positive guaiac test. Plain x-rays of the abdomen are of great help, and a barium enema is diagnostic. The diagnosis is possible, however, prior to calling the radiologist or the surgeon.

The diagnostic points of appendicitis are well known. While pain remains the cardinal

symptom, the young child may vomit more prominently, and vomiting may appear to precede pain. One troublesome combination to differentiate from appendicitis is the acute respiratory or ear infection plus fecal impaction from dehydration. A plain x-ray of the abdomen will often prove of value in such cases.

On examination one designs the plan of examination to suit the occasion. The abdomen, first in importance, is examined before tears come, or before gagging the child with a tongue blade. Sitting rather than standing beside the child appears to lessen the impression of an ogre—for giants and ogres are not usually depicted sitting. The child may be examined in the parent's lap. A rectal examination is always necessary and positive findings are present in as many as three-fourths of patients.[13] Sedation should be employed to check on tenderness if necessary. Rebound tenderness usually scares children and can be falsely positive. (Fig. 2) Percussion tenderness is a good substitute for the presence of peritoneal irritation and can be passed off as a drumming.

In the pre-operative child with suspected appendicitis, it is very important to lower the temperature below 101°F. Intravenous fluids and rectal aspirin should be given early in order that a maximal effect is obtained without delay. Intubation of the stomach, though distasteful, assists in relieving vomiting and makes anesthetic complications less likely.

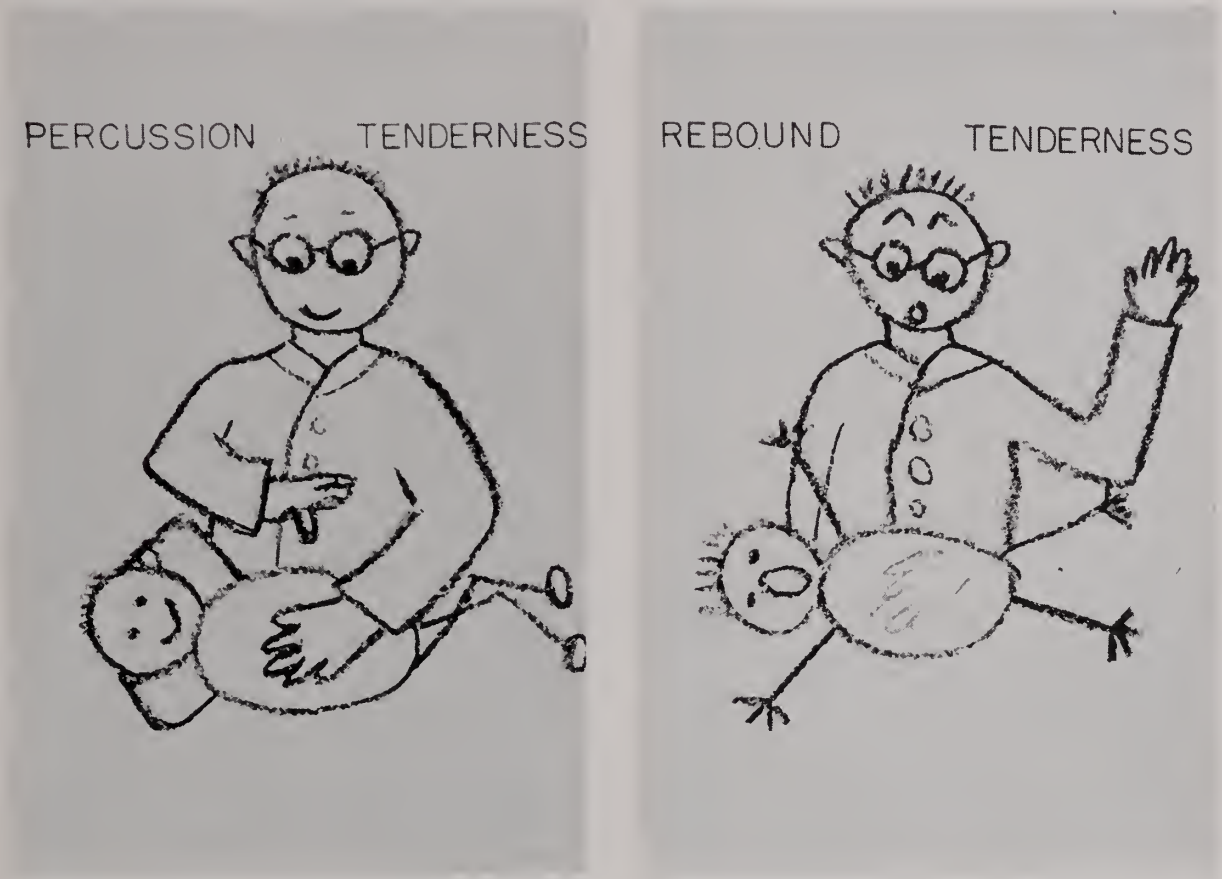

Fig. 2. Rebound (right) and Percussion (left) Tenderness.

Summary

Some of the important pediatric surgical problems in which early diagnosis may be the responsibility of the general practitioner have been discussed. Although seen infrequently a sense of alertness and urgency are important to the proper care of surgically ill infants and children. These patients are

very frisky and shifty in getting sick, but also in getting better. To handle them properly the physician must move at their pace, and with their alertness for the slightest sign or noise.

Bibliography

1. Potts, W. J.: The Surgeon and the Child. W. B. Saunders Co. Philadelphia, 1959. page v.
2. Clatworthy, H. W. Jr., and Lloyd, J. R.: Intestinal Obstruction of Congenital Origin. A.M.A. Arch. Surg. 75: 880-890, 1957.
3. Reichert, J. L.: Respiratory Distress in the Newborn Infant. Post-grad. Med. 22: 142-156, 1957.
4. Bishop, H. C.: Safe Transportation of Newborn Infants for Emergency Surgery. J.A.M.A. 165: 1230-1233, 1957.
5. Nixon, H. H.: Intestinal Obstruction in the Neonatal Period. Greater Ormond Street Journal. 11: 1-30, 1956.
6. Lloyd, J. R.. and Clatworthy, H. W. Jr.: Hydramnios as an Aid to the Early Diagnosis of Congenital Obstruction of the Alimentary Tract: A Study of Maternal and Fetal Factors. Pediatrics 21: 903-909, 1958.
7. Bill, A. H., and Johnson, R. J.: Failure of Migration of Rectal Opening as Cause for Most Cases of Imperforate Anus. Surg. Gynec. & Obst. 106: 643-651, 1958.
8. Wangensteen, O. H., and Rice, C. O.: Imperforate Anus—A Method of Determining the Surgical Approach. Ann. Surg. 92: 77-81, 1930.
9. Gross, R. E., and Meeker, I. A. Jr.: Abnormalities of Sexual Development. Pediatrics 16: 303-322, 1955.
10. Lynn, H. B.: Pyloric Stenosis and Its Relationship to Pre-operative Preparation. Arch. Surg. 81: 453-459, 1960.
11. Gross, R. E.: The Surgery of Infancy and Childhood. W. B. Saunders Co. Philadelphia, 1953. pages 450, 452.
12. Gross, R. E., and Ware, P. F.: Intussusception in Childhood. New England J. Med. 239: 645-652, 1948.
13. Longino, L. A., Holder, T. M., and Gross R. E.: Appendicitis in Childhood. Pediatrics 22: 238-246, 1958.

Medical Towers
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Americans and Ulcers

More than 2.4 million Americans have ulcers, and nearly three times as many men have ulcers as do women, according to the Health Insurance Institute. Some 1,771,000 men have some form of peptic ulcer, including gastric, duodenal, and gastrojejunal ulcers, compared to 669,000 women.

Reports indicate that ulcers are four times as common among Americans now as they were in the 1930's. A National Health Survey in 1935-36 showed that less than three out of every 1,000 persons in the population had an ulcer. The latest survey, covering the 1957-59 period, disclosed that 14 out of every 1,000 persons in the civilian population were so afflicted. However, this seeming quadrupling of the ulcer rate has been attributed in part to more accurate methods of diagnosis through wider use of x-ray equipment. Other statistics strengthen the impression that the prevalence rate of ulcers had quadrupled. Over a 20-year span, the rate of hospital admissions for ulcers has grown from .4 admissions per 1,000 persons per year to 1.7 admissions.

The Newer Progestins in Various Gynecological Disorders

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During the past few years potent progestins have become available. They will be increasingly useful in several gynecological disorders.

THE WORK of Corner and Allen[1] published in 1929 established the identity and primary functions of the hormone we know as Progesterone. Its synthesis in 1934 made it available for therapeutic use. Its expense and our limited knowledge of its potential confined its general use essentially to functional bleeding and certain cases of amenorrhea for most of the next 15 years.

Early attempts at utilizing it for habitual abortion and premature labor were generally unsuccessful but subsequent studies on the excretion of the end product pregnandiol suggested that the dosage levels used were woefully inadequate. Improved results were obtained with the larger doses suggested by these studies and made possible by increased availability and lowered cost. The diagnostic techniques of pre-menstrual endometrial biopsies and pregnandiol determination both in the pregnant and nonpregnant state further improved the results by providing a semblance of a scientific method for choosing those cases of habitual abortion and premature labor which might be helped by Progesterone.

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A remaining drawback for some years was that predictable results could only be obtained by daily intramuscular injection.

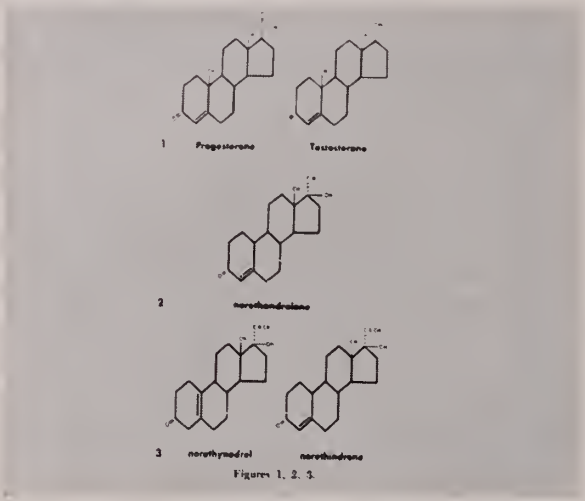
Anhydroxyprogesterone (Pranone) could be given orally but required 5-10 times the parenteral dose and had androgenic potential. Progesterone could be given sub-lingually but again required increased dosage and gave somewhat unpredictable results. Both of these routes were prohibitively expensive for the larger doses needed in pregnancy. The Pranone had the additional disadvantage of at times producing masculinizing change in female infants born of mothers receiving the drug during pregnancy.

In the past four years the wizardry of the steroid chemist had made available to us an increasing variety of so-called progestins or steroids with progesterone-like actions which have increased the ease of administration and extended our therapeutic horizons.

This discussion will be confined to those now commercially available.

One of the first of these to appear was hydroxyprogesterone caproate or Delalutin. Its actions were essentially those of pure Progesterone but a single injection could provide therapeutic effect for 7-10 days, a tremendous boon in the prolonged treatment of the habitual aborter or in attempting to avert premature labor. In the case of habitual abortion where progesterone deficiency is suggested by endometrial biopsy or pregnandiol determination, a suggested dosage is 2 c.c. (250 mg.) every 10 days started as early in pregnancy as possible, preferably several days post-conception and continued to at least four months. In those patients

threatening premature labor larger doses of 3-4 c.c. may be needed and sometimes the frequency may have to be increased to as often as 3-7 days. In an occasional case contractions can only be stopped with daily injections of pure progesterone in a dosage as high as 150 mgm. Where the membranes are ruptured, the results, however, are poor.



(From Crosson, J. W.: Fertility and Sterility 4:361, 1959)

In 1956 and 1957 the first potent oral progestins became available in the form of 19-nor progestational steroids. Figure I illustrates the chemical relationships of the principals of this group. It is to be noted at the top that progesterone and testosterone differ only in the side chain at the 17 position. In the center is norethandrolone (or Nilevar) the first drug of this group, which was initially marketed as an anabolic agent but which was also found to have both progestational and androgenic effects. It is more closely related to testosterone but lacks the 19 carbon atom; hence, the name 19-nortestosterone compound. Norethindrone (Norlutin) is seen to be identical to Nilevar except for the ethinyl group at the 17 alpha position. To its left is seen Norethynodrel (the major constituent of Enovid) and the only difference in these two is the shift in the double bond in the first ring from the 4-5 to the 5-10 position. These latter two drugs are the ones that have most significantly extended the horizons of progestin therapy. The basic actions of these two are almost as similar as their formulas and they differ mainly in their side effects which are estrogenic, producing nausea in some with Enovid, and mildly androgenic with Norlutin. Jones[2] has knowledge of 27 female infants with masculinized external genitalia born to mothers receiving Norlutin while encountering only one where Enovid has been used. Bioassay of androgenic potential as evidenced by changes in the rat seminal vesicles and prostate confirms this difference and indicates no demonstrable androgenicity in Enovid. An additional difference in the commercial preparations is that 1.5% 3-methyl-ester of ethynylestradiol is added to the norethynodrel to make the commercial Enovid. This added estrogen decreases the incidence of breakthrough bleeding. Because of this and the difference in androgenicity we have preferred Enovid and my subsequent remarks on the 19 nor-steroids are based on work with this compound.

The varied uses of Enovid stem from a varied response to dosage in different parts of the cycle. When started at the fifth day of cycle there is suppression of pituitary gonadotropins and hence blockage of ovulation rendering it an effective contraceptive agent, but a secretory type of endometrium is produced by the drug itself. When given after ovulation there is marked decidual change in the stroma and if dosage is continued this is progressive, holding off the menses and simulating the changes of pregnancy. This result has suggested its use in endometriosis where a beneficial effect from pregnancy has long been noted. Meigs has stressed that early pregnancy may represent a prophylaxis against endometriosis but unfortunately this entity is frequently found in patients whose main concern is the inability to become pregnant. In others pregnancy is impractical for other reasons.

Treatment of Endometriosis

Our principal study of Enovid has involved an experimental attempt to produce pregnancy changes in endometriosis through iatrogenic pseudo-pregnancy. The beneficial

effect on endometriosis is apparently accomplished by decidual transformation followed by decidual necrosis. Good results with this regime have previously been reported by Kistner[3] and ourselves.[4] In this report we would like to present an expanded series and a longer follow-up study. The first four cases were treated with Delalutin in conjunction with estrogen. Because of frequent breakthrough bleeding the remaining patients were treated with Enovid (norethynodrel with 1.5% 3-methyl ester of ethynlestradiol) starting with 10 mgm. daily for 10 days, 20 mgm. daily for the next two weeks, 30 mgm. thereafter increasing with further 10 mgm. increments if cramps or spotting occurred.

Thirty-two patients are included in this series. The reasons for treatment are listed in Table I. In 23 of these the diagnosis was

Table 1.

Prime Reason for Treatment

Pain (no prior operation)	11
Pain (previous operation for endometriosis)	13
Sterility (pain present but minor)	3
Investigation prior to planned operation	3
Vaginal endometriosis (cyclical bleeding post-hysterectomy-1)	2
Total	32

confirmed pathologically prior to, during or after therapy. In nine the diagnosis was made clinically but only cases with very definite signs and symptoms were included, eight of these having unequivocal tender uterosacral nodules. Six patients came to operation after start of therapy and the diagnosis was proved correct microscopically in all.

Results: Decidua was consistently found in endometrial biopsies beyond the fourth week of therapy with the change being marked in those receiving Enovid. In four of five patients on whom endometrial biopsies were obtained beyond the 15th week of pseudopregnancy, evidence of necrosis of decidua was observed.

Decidua was found in the ectopic endometrium in all six cases of pseudopregnancy in which this tissue was removed for study. In a case of vaginal endometriosis (following total hysterectomy) about 20 implants were visible as small flat purple areas about 2 mm. in diameter. During pseudopregnancy all of these areas enlarged about fourfold and protruded as soft pink polyps. Biopsies showed marked decidual response at seven weeks. Following discontinuance of therapy at 12 weeks the patient had no further vaginal bleeding, although she had previously bled cyclically. The implants regressed so as to be hardly visible. Biopsies, however, showed some scattered glands on three occasions up to one year later. A second case of vaginal endometriosis showed extensive polypoid lesions which have now disappeared and the lesion can no longer be found even microscopically.

In three cases limited pseudopregnancy of 7-12 weeks duration, was given prior to planned laparotomy. Plaques of endometriosis were found about the uterus, ovaries and utero-sacral ligaments. They were yellow, soft, very edematous and grossly friable and dissected with the greatest of ease. The uterus which was previously fixed in two of these could readily be brought forward. Microscopically extensive decidual change with pigment-ladened macrophages could be seen. Pseudoxanthoma cells were present contributing the yellow color. Several areas of necrosis and hyalinization were present in the implants at 12 weeks. In all the decidual change was more complete in the ectopic than in the normally situated endometrium.

Clinical Results: Twenty-four patients had been selected for pseudopregnancy primarily because of pain. In one treatment was discontinued after one day because of nausea. In another treatment was discontinued at seven weeks because of increased severity of pain. The uterus in this patient which was twice normal size prior to therapy enlarged to four times normal during treatment. It regressed to its original size in the two weeks between treatment and operation and the excised specimen showed degeneration and hemorrhage in a myoma.

All other patients were maintained for 14-28 weeks in pseudopregnancy. They all experienced diminution or elimination of pain during treatment. Twelve were completely free of pain. Others were definitely improved but had occasional episodes of pelvic discomfort.

In all cases in which tender utero-sacral nodules were present the tenderness was diminished or eliminated. The change from extreme tenderness was usually dramatic.

Table II shows an evaluation of the results as indicated by symptoms and physical findings.

Table II.

Effects of Pseudopregnancy in 24 Cases of Endometriosis Treated Because of Pain

	Well	Improved	Not Improved	Total
During treatment	12	11	1*	24
After treatment	10	12	1	23*

* Treatment in one case was discontinued at nine weeks because of increasingly severe pain.

Of the original group of 16 patients reported one year ago, follow-up studies in the past month revealed that four of the seven patients classified as well after treatment have noted some recurrence of signs or symptoms 15-20 months following therapy but these have been minimal, and seven classified as improved have remained so. All of the patients with the above two exceptions have been markedly better than prior to therapy, and none of this group has required subsequent operation.

The best results were obtained in those continuing therapy beyond 20 weeks.

Of six infertility patients only one became pregnant after pseudopregnancy alone and she miscarried at 10 weeks. One became pregnant following pseudopregnancy and operation. One patient subsequently came to laparotomy 18 months after treatment because of continued infertility. Extensive adhesions were found but no active ectopic endometrium.

One patient who had been treated for pain inadvertently became pregnant prior to marriage.

The principal side effect has been nausea which was present in 40% to some degree and in moderate severity in 15%. In one it necessitated cessation of therapy. In most it subsided after several days.

Breakthrough bleeding, usually quite scant, occurred in 42% with the most common time of occurrence being the 12-14 week. We now believe an automatic increase to a daily dosage of 40 mgm. at the 12th week is advisable to reduce this annoyance.

Breast soreness and enlargement, abdominal swelling, and increased appetite were noted in all. Lactation occurred in five and weight gain and a sense of well being were frequently noted. One patient had a significantly observable increase in varicose veins which became symptomatic for the first time.

In six patients with myomas marked enlargement was noted during therapy, with return to their original size after treatment. Enlargement of normal sized uteri to approximately twice normal size was usually observed with again post treatment regression.

In all patients subsequently checked with endometrial biopsies following re-establishment of regular menses evidence of ovulation was found, and as mentioned three have become pregnant, although pre-existing luteal phase defects were unchanged.

Our present impression after reviewing our material critically and re-examining and requestioning the patients is that significant reversal of endometriosis has usually resulted. These benefits appear to approach those expected from physiological pregnancy and to have the same tendency towards transience in some cases.

It is felt that this method of therapy is best used in cases of relatively early but definite endometriosis and in those with recurrence after surgery. It is our opinion that the infertility patients with extensive endometriosis are best treated surgically to re-establish normal anatomical relationship, but preoperatively pseudopregnancy for 8 weeks greatly facilitates the surgical pro-

cedure and its continuance postoperatively may be considered if all of the endometriosis is not removed.

Treatment of Dysmenorrhea and Menorrhagia

The following is a preliminary report on a clinical study in progress of Enovid in several other gynecological problems. The number of cases studied is still too small to be statistically significant but they give an indication of what may be achieved with the drug.

The demonstration by Rock and coworkers that Enovid would consistently block ovulation when given from day 5-24 has suggested a possible beneficial effect in dysmenorrhea. Its progestational action on the endometrium makes this possible without the complication of excessive bleeding which has been noted where estrogens were used to accomplish this effect.

The patients in this series were initially given 10 mgm. daily from day 5-24 of each cycle for three successive cycles. In an attempt to reduce the expense and minimize nausea, this has been changed in recent months to 5 mgm. daily unless breakthrough bleeding occurs. Only those patients with severe dysmenorrhea were included and most required bed rest in the acute phase.

Thirty-four patients were studied. One stopped the medication after two days because of severe nausea and one after three days because of urticaria.

Of the remaining 32 patients, 29 or 90% were either free of cramps or markedly improved. These 29 included seven patients who had previous D&C with either minimal benefit or total recurrence of symptoms after 3-6 months. It also included four patients who had Lutrexin therapy without relief and three had been similarly unsuccessful with the use of Vasodilan.

Of the three patients who failed to respond, one is under psychiatric care and one had a subsequent laparotomy which revealed chronic pelvic inflammatory disease.

All the the patients who had concomitant pre-menstrual tension were relieved of these symptoms during therapy.

There has not been adequate time for significant studies on the rate of recurrence following therapy but approximately half have had recurrence of the symptoms at least by the third post-treatment cycle. The others have remained free of symptoms for periods up to eight months which is the longest follow-up we have to date.

Enovid in a dosage of 10 mgm. from day 5-24 was used for 17 patients with menorrhagia with excellent results in 15. Four of these had had previous D&C's with recurrence in the next cycle. In three of these only secretory endometrium had been found, one having had two curettages in the previous four months without benefit. She was given Enovid therapy for three cycles starting in July, 1959, and the flow has been normal since the onset, both during and after therapy. Three of the 15 had recurrence of heavy menses after cessation of therapy.

Nine patients with metrorrhagia were similarly treated, six successfully. Of the three failures, curettage revealed retained secundines in two. One of the six who responded during treatment had a recurrence of the irregularity afterwards.

Use as Contraceptive

Perhaps the greatest potential for the widespread use of this drug is in its role as an oral contraceptive. Dr. John Rock[5] has reported on over 20,000 cycles of exposure to pregnancy in women taking cyclical Enovid with only one questionable pregnancy. It is effective in dosage as low as 2.5 mgm. daily given from day 5-25 but a dosage of 5 mgm. is recommended because of the high incidence of breakthrough bleeding at the lowest dosage. An occasional patient will have an occult period without noticeable bleeding and the patients are instructed to restart medication after seven days if no bleeding has occurred to prevent pregnancy in the succeeding cycle. Patients have now been

on this for as long as four years without any demonstrable deleterious effects.

Provera

Another compound has recently been added to the armamentarium of progestin therapy in the form of 6-methyl-17-acetoxyprogesterone or Provera. It has approximately 12 times the potency of Pranone and apparently has slightly better effect mgm. for mgm. than parenteral progesterone.[6] This drug has apparently a purely progestational effect stimulating endometrial glands and stroma alike and has neither androgenic nor estrogenic side effects. The absence of estrogenic effects makes it ineffective in reasonable dosage for pseudopregnancy or for blocking ovulation for dysmenorrhea or contraceptive purposes. It may prove ideal, however, in those cases needing pure progestational effect such as in hyperplasia of the endometrium and in threatened abortion.

To elaborate for a moment on the habitual aborter, when a progesterone deficiency is demonstrated by endometrial biopsy or pregnandiol studies, progesterone therapy should be started each month approximately three days after estimated ovulation and continued if pregnancy occurs or stopped if menses follow. With the exception of daily injectable progesterone, the other medications available were either unpredictable, androgenic, or would frequently hold off the menses artificially. Provera has none of these drawbacks and would seem to be the drug of choice for this indication and for the infertility patient with a demonstrable luteal phase defect, starting with a 10 mg. dose increasing to 20 mgm. after one month and continuing to 16 weeks. Dosage may be further increased if indicated by cramps or bleeding. It seems similarly promising in some cases of threatened abortion but more experience is needed to further delineate its use and dosage.

If present trends continue within a short time we may have a specific progestin especially tailored for each of the above uses.

Table III.

Results Obtained Using Cyclical Enovid in Various Gynecological Disorders

	No. of Cases	No. Improved	% Improved
Dysmenorrhea	34*	29	85% (90%)
Menorrhagia	17	15	88%
Metrorrhagia	9	6	66%

* Includes two patients in whom therapy discontinued at onset because of nausea in one and hives in the other.

Bibliography

1. Corner, G. W., and Allen, W. M.: Am. J. Physiol. 88: 326, 1929.
2. Jones, H. W., Jr.: Personal Communication.
3. Kistner, R. W.: Fert. & Ster. 10: 539, 1959.
4. Andrews, M. C., Andrews, W. C., and Strauss, A. F.: Am. J. Obst. & Gynec. 78: 776, 1959.
5. Rock, J.: Paper presented at the sixteenth annual meeting, American Society for the Study of Sterility, April 1-3, 1960, Cincinnati, Ohio.
6. Goldblatt, R. B., and Barfield: Southern M. J. 32: 345, 1959.

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Anorectal Pathology Encountered in the Outpatient Clinic

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Not only is proctoscopy shown to be an important diagnostic procedure, but the value of instructing medical students in the technique is also stressed.

IT IS A WELL ACCEPTED FACT that proctoscopy carried out by the experienced examiner produces a high yield of significant pathology. The purpose of this paper is to show that supervised proctoscopic examination performed by the novice can be very rewarding and offers the added advantage of introducing the beginner to a technic of this simple but important diagnostic procedure.

This presentation is based on work done by fourth year medical students under the direct supervision of a consultant in the Surgical Section of the Diagnostic Clinic for the period covered by four consecutive scholastic years terminating with 1959-60. During this period 1305 patients were seen, most of whom were referred from a screening clinic where, on the basis of a brief history, the patient was thought to have some surgical problem. Others were referred directly by the emergency room, other hospital clinics, private practitioners, welfare and rehabilitation agencies, and a few represented overflow from the Medical Clinic. While most of these patients were selected because they were thought to have surgical problems, they were completely unselected insofar as any particular type of surgical pathology was concerned.

Recognizing the merit of the adage that "The indication for a proctoscopy is a patient", but objecting to the implication that proctoscopy should be done routinely excepting individuals over 40 years of age, the criteria shown in Table I were adopted as indications for proctoscopy.

TABLE I

1. Bleeding
2. Protrusion
3. Discharge
4. Change in bowel habits
5. Dyschesia (painful defecation)
6. Itching
7. X-ray examination of colon

Rectal bleeding resulting in most cases from hemorrhoids may be caused by polyps, malignant disease, diverticulitis, specific and non-specific types of ulcerative colitis and many other diseases. In all cases of rectal bleeding, proctoscopy must be done in an effort to determine the source of the bleeding; if obvious bleeding hemorrhoids are present proctoscopy is still imperative to rule out coincident disease.

Protrusion immediately brings to mind prolapsed internal hemorrhoids, redundant rectal mucosa, polyps or other types of tumor and hypertrophied anal papillae.

Discharge may signify the presence of a draining abscess, fistula, villous tumor, specific or non-specific inflammatory disease of the anorectum. The type of the discharge may be mucoid, pustular or bloody or a mixture of any two or all three.

Change in bowel habits may mean tumor of the right or left colon, specific or non-specific colitis, or merely an increased con-

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sciousness of bowel habits—an occurrence so characteristic of advancing age.

Pain on defecation, because of the difference in the nerve supply of the anus and rectum, is of as much importance in locating the lesion as in diagnosing it. Dyschesia, therefore, locates the pathology at or below the pectinate line. Lesions most frequently causing pain on defecation are anal ulcer, fissure-in-ano, abscess and acute thrombotic external hemorrhoid.

Itching always is associated with pruritis ani which can be diagnosed by the history and inspection. However, proctoscopy is indicated in these cases to determine the presence or absence of other pathology.

Because the terminal 15 centimeters of the gastrointestinal tract is a "blind spot" to x-ray examination, any patient scheduled for x-ray examination of the colon should have a proctoscopy to complete the examination of the large bowel. This becomes increasingly imperative when it is pointed out that two-thirds to three-fourths of premalignant and malignant lesions of the colon and rectum occur within reach of the 25 cm. proctoscope.

Using these indications, proctoscopies were done in 401 patients, or 30.72%, of the 1,305 patients seen. Each patient proctoscoped was prepared with a four and one-half ounce enema containing sodium phosphate and disodium phosphate given from a disposable plastic bottle.

Among the 1,305 patients seen, the most common site of pathology found or the most common diagnoses* made on the basis of the history, physical and proctoscopic examinations are shown in Table II.

It is striking that, except for neuropsychiatric problems, significant pathology found more often in the anorectal area than anywhere else was found here over two times as often as pathology elsewhere.

Special examinations most frequently performed were x-ray examination of the stomach and duodenum, the gall bladder and the colon. A comparison of these findings with those at proctoscopy is seen in Table III.

TABLE II

Site of Pathology or Diagnosis	Number of Patients	Percentage
Anorectal region	205	14.94
Hernia	82	6.28
Goiter	57	4.36
Varicose veins	42	3.21
Breast area	26	2.22
Neuropsychiatric disorder	107	8.19

TABLE III

Special Examination	Number of Special Examinations	Positive Examinations (per cent)
X-ray examination of:		
Stomach and duodenum	287	82 (28.57)
Gall bladder	216	40 (18.51)
Colon	190	13 (6.84)
Proctoscopy	401	195 (48.62)

Here again one is impressed by the relatively high yield of pathology found at proctoscopy as compared with that found on the other special examinations.

Table IV shows an analysis of the pathologic conditions discovered at proctoscopy. Twenty-five neoplasms were found. Removal of the condylomata was recommended by the consultant and rejected by the patient. The submucous mass was removed and reported by the pathologist as lymphoid tissue. The one case of carcinoma of the anus was an incidental finding by the pathologist in the examination of some condylomata removed at the same time a hemorrhoidectomy was done. The patient with carcinoma of the ovary was found at proctoscopy to have an extraluminal mass at the 5 cm. level preventing further passage of the proctoscope. Subsequently laparotomy revealed a pelvic malignancy with metastases to the omentum and liver and a frozen pelvis. Biopsy of the omentum and pelvic mass was reported as carcinoma of the ovary. The chordoma occurred in a 54 year old male

*Eighty-eight other diagnoses were made one or more times but because of their relative infrequency are not included in this paper.

who came in complaining of soreness at the tip of his spine. Proctoscopy revealed a firm 4 cm. retrorectal nodule at the 15 cm. level. After admission and further work-up it was approached through the abdomen, was found to involve the sacrum and the rectal wall. Because of this, a palliative resection was done followed by a course of cobalt radiation ending in November 1959. The patient was last seen in March 1960 at which time there was no sign of recurrence.

TABLE IV

	Number of Cases	Percentage of Patients Proctoscoped	Percentage of Patients Seen in Clinic
NEOPLASMS	25	6.23	1.91
Condylomata acuminata	(1)	0.24	0.07
Submucous mass	(1)	0.24	0.07
Carcinoma of anus	(1)	0.24	0.07
Carcinoma of ovary	(1)	0.24	0.07
Chordoma	(1)	0.24	0.07
Carcinoma of rectum	(9)	2.24	0.68
Polyp	(11)	2.74	0.84
Benign(10)			
Malignant (1)			
INFLAMMATORY DISEASE	48	11.97	3.67
Pruritis ani	(1)	0.24	0.07
Acute papillitis	(2)	0.49	0.15
Hypertrophied anal papilla	(8)	1.99	0.61
Anal contracture	(3)	0.74	0.22
Ischiorectal abscess	(5)	1.24	0.38
Fissure in ano	(21)	5.23	1.60
Fistula in ano	(8)	1.99	0.61
HEMORRHOIDS	132	32.91	10.11
TOTAL	205	51.12	15.71

Of the nine patients with carcinomas of the rectum, two were not operated upon. One patient, in whom another lesion was found in the sigmoid, had an elevated urea upon admission. The urea continued to rise rapidly, and 15 days after admission he expired. The other who had a fungating adenocarcinoma at 11 cm., refused surgery and signed himself out of the hospital.

The remaining seven patients did have surgery. One had a nonresectable growth, and a palliative colostomy was done. Two had anterior resections for lesions at 15 and 17.5 cm.; one of these returned in 18 months with a recurrence at the suture line; the other was found to have metastases in the liver at the time of surgery, and definitive therapy was not received in time to hope for a cure. The remaining four had Miles resections for lesions at levels of 5, 8, 11, and 12 cm. One of the four had metastases in the liver, and again definitive therapy was too late for cure. The remaining three patients had no gross evidence of spread at surgery, and microscopic examination showed no extension into any lymph nodes. It is reasonable to hope that these three are cured, and to date they have shown no sign of recurrence.

Of the 11 polyps found, one at 10 cm. was treated with a Miles resection because it was ulcerated even though biopsy on two separate occasions was reported as benign. It was then reported as papillary adenocarcinoma with no extension beneath the mucosa. Seventeen lymph nodes were free of tumor. At surgery no evidence of spread was noted, and this patient, is in all probability, cured.

It is difficult for the specialist to discover polyps especially on the cephalad side of the valves. In view of the fact that these examinations were done by unskilled observers, some polyps were undoubtedly missed, and it is not surprising that more of the sessile polyps 1-3 mm. in diameter so often seen as incidental findings were not discovered.

Table IV shows 205 cases of anorectal pathology, and Table III showed only 195 proctoscopic examinations with positive findings. Five patients with ischiorectal abscess, four with acute thrombotic external hemorrhoids and one with a rosette of prolapsed internal hemorrhoids had so much discomfort that proctoscopic examination in the clinic was obviated. These, of course, are not included in the positive examinations at proctoscopy but are included in the anorectal pathology.

Only six cases of acute thrombotic external hemorrhoids were seen during the entire period. The remaining 126 cases of hemorrhoids represent either internal or the combined internal-external variety.

Comment

This paper is presented as evidence of the educational as well as the diagnostic value obtained in offering students an opportunity to learn a technic of proctoscopy. As a result of this experience, it is believed that each senior student is better prepared to diagnose anorectal disorders and, insofar as malignancy is concerned, is more likely to do his part in preventing the tragedy of delay still too frequently seen.

Summary and Conclusion

Supervised proctoscopy was done by fourth year medical students on 401 of 1,305 consecutive patients with the findings of significant anorectal pathology in 48.62 per cent of the patients so examined. Positive findings at proctoscopy were compared to positive findings at history and physical examinations and to positive findings at three other special examinations.

An analysis of the anorectal pathology was briefly discussed.

Proctoscopy done by the novice under supervision is a most rewarding diagnostic and educational procedure.

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Drug Dissolves Blood Clot

A method of dissolving blood clots that form in the coronary arteries and cause heart attacks has proved effective in a dog and might be applied to man, according to five Chicago physicians.

The treatment, using a clot-dissolving drug (Thrombolysin), was described by Drs. Houck E. Bolton, Fernando A. Tapia, Hector Cabral, Rogelio Riera, and M. S. Mazel, Edgewater Hospital, Chicago, in a preliminary communication in the January 28 Journal of the American Medical Association.

A blood clot was formed artificially and inserted into the animal's left coronary artery by means of a tube placed in the artery. Examination an hour later showed that the clot had blocked branches of the artery and caused an acute myocardial infarction, or heart attack.

Then the drug in liquid form was administered through the tube into the left coronary artery at five-second intervals for 50 minutes. An hour later, the physicians reported, examination revealed that the blocked branches of the artery were open. A half-hour later, "there was no residual evidence of myocardial infarction."

"The case . . . shows remarkably good results, and its clinical application may well be envisioned."

In man, a tube can be extended to the coronary artery by inserting it into an artery in the arm or leg and the clot-dissolving agent administered as in the experiment, they explained.

Thrombolysin, introduced last summer, has produced favorable results when administered intravenously in dissolving clots in other parts of the body, according to earlier reports.

Histoplasmosis Simulating Sarcoidosis

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It is not always easy to distinguish sarcoidosis from other granulomatous diseases. The differential is of practical importance, however, and cultures of biopsy material should be made.

ONE OF THE PROBLEMS in the diagnosis of sarcoidosis is the similarity of the histological findings to those of some other granulomatous diseases. Because of this, the diagnosis cannot be made conclusively from the pathological picture alone. In many instances, the clinical manifestations of sarcoidosis are sufficiently characteristic for an accurate differential diagnosis (as when bone, eye, lung, parotid gland, skin lesions and other typical organ involvements are present). However, occasionally one encounters a case of non-caseating granuloma due to a specific infection (tuberculosis, histoplasmosis, cryptococcosis) with the clinical and histological findings perfectly compatible with sarcoidosis; in such cases the correct diagnosis can be made only from bacteriological studies. In some of these cases of infectious granuloma the original diagnosis of sarcoidosis has been made and it has only been at a later date that the infecting organisms were demonstrated. The administration of cortico-steroid therapy in such cases of infection may transform a relatively benign infection to a much more serious one. The deleterious effect of steroid therapy upon these infectious granulomata emphasizes the importance of careful bacteriological studies in all cases of non-caseating granuloma despite the histological changes suggesting the diagnosis of sarcoidosis.

We have recently studied a young man with a benign clinical picture, a chest x-ray suggestive of sarcoidosis, splenomegaly, and a scalene node biopsy that revealed a non-caseating granulomas suggestive of sarcoidosis. In fact, the diagnosis of sarcoidosis was originally made and the true diagnosis of histoplasmosis was made only after histoplasma capsulatum was cultured from the scalene lymphnode biopsy.

Case Report

A 20-year-old white male college student became ill about February 26, 1960, the main complaints being weakness, generalized aching, a non-productive cough, fever and headache.

He admitted having had an intermittent cough during November and December of 1959, but during the months of January and February, 1960, felt a great deal better, and the cough had disappeared.

The main physical findings noted when the patient was first seen (March 6, 1960) were a temperature of 101, blood pressure of 120/60, pulse 98. The patient appeared to be an acutely ill young white male with flushing of the face. There was marked injection of the pharynx, associated with small non-tender anterior and posterior cervical nodes, but no outstanding lymphadenopathy was noted. The lungs were clear to auscultation and percussion; examination of the heart revealed no abnormality. Examination of the abdomen revealed the liver

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edge to be felt two finger breadths below the right costal margin; it was smooth, firm, and non-tender. The spleen was palpable three finger breadths below the left costal margin and was smooth, firm, and non-tender. There was no skin rash. The remainder of the physical examination was considered to be essentially negative.

Initially it was felt that this patient had infectious mononucleosis and he was therefore started on warm saline gargles and chloramphenicol 250 mg. every six hours. After being on this regime for six days his temperature began to subside, with an improvement in his appearance and symptoms. Therefore, the chloramphenicol was discontinued.

The patient then complained intermittently of frontal headaches and he continued to run a low-grade fever.

At the time of admission to the hospital March 30, 1960, the liver edge was felt three to four finger breadths below the right costal margin; it was smooth and non-tender. The spleen, which had decreased in size, was felt only one to two finger breadths below the left costal margin, and it was smooth and non-tender. There was no change in the size and consistency of the peripheral lymph-nodes, and there were no new findings on physical examination.

The initial laboratory work revealed a hemoglobin of 16.0 grams, white count was 2,200; neutrophils 58 per cent, eosinophils 1 per cent, lymphocytes 37 per cent and monocytes 4 per cent. Heterophile agglutination and routine agglutinations were negative. Cephalin flocculation was one plus in 48 hours. Total proteins were 7.6 grams, with albumin 4.2 grams and globulin 3.4 grams per cent. Blood electrophoresis revealed albumin 50.7 per cent; alpha 1, globulin, 7.9 per cent; alpha 2, globulin, 11.7 per cent; beta globulin, 17.8 per cent; gamma globulin, 11.9 per cent; with an AG ratio of 1.03. Blood calcium was 9.7 mg. per cent; phosphorous, 3.6 mg. per cent. The chest x-ray (Fig. 1) revealed bilateral hilar adenopathy with the lung fields otherwise being clear; the heart was normal in size. X-rays of the skull and hands were negative. The blastomycin, old tuberculin through 1:100 dilution, and coccidiodin skin tests were negative. However, the histoplasmin skin test was strongly positive.

Fig. 1

Scalene lymph nodes were removed and some of the tissue was sent to the laboratory for tuberculosis and fungous smears and cultures. Pathological examination of the remaining tissue revealed infiltration by epithelioid cells and histocytes, arranged in clusters simulating tubercles. Some clusters were small, while others were confluent. Occasionally the nuclei of the cells were fused to form multinucleated giants calls. Some of the giant cells contained vacuoles but no inclusion bodies were seen. There was no evidence of caseation. Within the stroma were hyaline scars. The pathological diagnosis was Boeck's sarcoid of supraclavicular lymph nodes.

On April 11, (12th hospital day) the patient's temperature orally was 99 degrees or lower. By this time the patient was feel-

ing a great deal better, having had no headaches during the previous week, and with marked improvement of the malaise, weakness, and myalgia. During his hospital stay he was treated only with salicylates, bed rest, and general supportive care. Because of his marked improvement he was discharged on April 11, 1960.

Upon returning home he continued to improve and regained his strength. On May 9, a tissue culture was reported as showing a very heavy growth of histoplasma capsulatum (Fig. 2). Some time after returning home the patient remembered that during the latter part of January, 1960, he had gone on a hunting trip. While in a barn hay loft

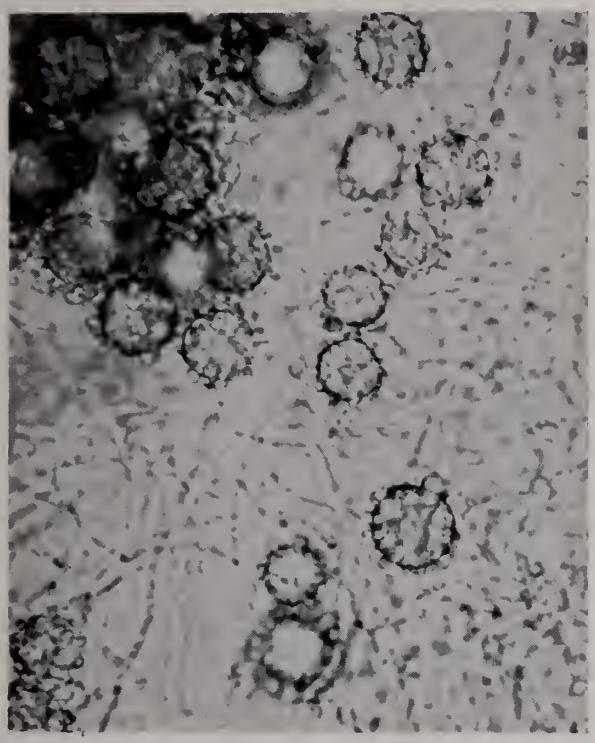

Fig. 2

he had found two pigeons which appeared sluggish and sick. He carried them out into the barnyard and shot them.

Discussion

A case of histoplasmosis is reported that simulated the clinical and pathological manifestations of sarcoidosis. The case demonstrates the difficulty encountered in the diagnosis of the disease or syndrome of sarcoidosis. It is probable that many cases diagnosed as sarcoidosis are actually a granuloma caused by a specific infection and, if the infection is a relatively benign process (as is true of many cases of histoplasmosis) the true diagnosis may never be made.

It is well recognized that the histological changes of sarcoidosis are not diagnostic and similar granulomatous changes may be demonstrated in cases of tuberculosis, cryptococcus infection and histoplasmosis as well as in some of the more rare granulomata. In most of such cases, however, the clinical picture is not one of an asymptomatic disease as is true of most cases of sarcoidosis. A careful bacteriological examination should be made of all biopsied material including scalene node biopsies. Certainly in our case if a portion of a group of scalene lymph nodes had not been cultured, the correct diagnosis would not have been made.

Sarcoidosis may cause considerable disability of the organ involved and such cases are now treated with one of the corticosteroid preparations in an attempt to reduce this disability. Because of the deleterious effect of such treatment upon granulomatous disease caused by infectious organisms, it is obviously important to identify the causative agent whenever present. Although our case of histoplasmosis was a relatively benign infection, the administration of steroid therapy may have changed the course of the disease into a serious one.

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Barbiturate Poisoning

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The widespread use of barbiturates makes it appropriate that all physicians be reminded of barbiturate poisoning.

THE BARBITURIC ACID derivatives comprise an important and valuable group of central nervous system depressants, Over 2,000 tons are sold yearly in the United States of America alone. It is hence no wonder that it is found in almost every home, and that more people die from their overdosage than from any other single drug.

Its first member was synthesized by Fisher in 1903 and was called barbital (Veronal) which is a diethyl barbiturate. The next to be synthesized was phenobarbital (Luminal) which is an ethyl, phenyl derivative. In the following years, many hundreds of new derivatives have been produced but barbital and especially phenobarbital still enjoy a deserved preference for many purposes. The chief advantage of several of the newer members of this group is their quicker onset of action and a shorter duration of action.

Synonyms: Sleeping pills, goof balls, yellow jackets, red devils, etc.

Uses: Sedation, hypnotic, anesthesia, preoperative.

Properties: Odorless, bitter, white crystalline powder, acidic, insoluble in water, soluble as the sodium salt.

MLD: Varies from about 1 to 6 Gm./150 lb. man depending upon the derivative potency. Short acting ones are more potent; longer acting less potent.

Remarks: Long Duration (18-24 hours), barbital, phenobarbital, found in blood and urine even up to one week later.

Intermediate (8-12 hours) amobarbital (Amytal), diallylbarbituric acid (Dial), butethal (Neonal), aprobarbital (Alurate), probarbital (Ipral), butibarbital (Butisol), vinbarbital (Delvinal).

Short Duration (3-6 hours), pentobarbital (Nembutal), secobarbital (Seconal), hexethal (Ortal), isobutylallyl barbituric acid (Sandoptal), cyclobarbital (Phanodorn).

Ultra-Short (½-2 hours), thiopental (Pentothal), hexobarbital (Evipal), thioamylal (Surital). (Rapidly removed from blood within several hours.)

High incidence of suicides.

Barbiturates are synergistic and increases in toxicity in combination with alcohol intoxication, chlorpromazine (Thorazine), reserprine or other depressants.

Acute Signs and Symptoms: Depression, amnesia, lowered body temperature, depressed circulation (marked fall in blood pressure), respiratory embarrassment, decreased response of respiratory center to carbon dioxide (Cheyne-Stokes), anoxia, cyanosis, limbs are flaccid, retention of urine is common, constriction or dilatation of pupils, corneal reflexes may be absent, ataxia, deep coma, possible shock, cold extremities, death due to respiratory arrest (frequently associated with marked cardio-vascular depression) or pneumonia.

Chronic Signs and Symptoms: Skin rash, slurred speech, cyanosis, amnesia, anorexia, emotional instability, ataxia constipation.

Identification: Urine, gastric lavage or blood are specimens of choice:

This is one of periodic articles on common poisonings which will be published in the Monthly from time to time. It is prepared by Dr. Kaye in collaboration with the Richmond Poison Information Center.

Acid-ether extraction group.

(1) 100 ml. of urine are placed into a large separatory funnel. Test urine with litmus paper to make certain it is slightly acid. If it is not, add one to two drops of sulfuric acid, and again retest.

The urine is gently shaken for several minutes with 200 ml. of ether. These layers are then allowed to settle. Separate the layers, and discard the urine. The ether (upper layer) is filtered through two layers of coarse grade filter paper to remove traces of water. The ether filtrate is collected into a Pyrex evaporating dish. This is then evaporated to dryness on a water bath. (Keep away from open flame.)

If residue is tarry yellow-brown (most times it is), add 15 ml. of chloroform and swirl and stir to dissolve residue. Then add a small pinch (size of match head) of activated animal charcoal. Again swirl and stir. This charcoal will absorb much of the yellow organic impurities that might interfere with the test. Filter and collect the clear chloroform into a small container. Gently evaporate to about 1-2 ml.

Several drops are transferred to a micro test tube, or a micro spot plate. Add two drops of cobalt acetate (1% in absolute methyl alcohol).

Mix well by swirling.

Stratify (overlay) with three drops of isopropyl amine (5% in absolute methyl alcohol).

A blue-violet interface or diffuse color indicates the presence of a barbiturate. Test may be used directly on powders or tablets.

(Dilantin Doriden, and other ureides also give a positive test.)

Phenobarbital requires cobalt acetate and isopropyl amine to turn blue, whereas, the other members of group turns blue upon the addition of only cobalt acetate, which however intensifies on addition of isopropyl amine and turns it lilac. This is a good means to differentiate phenobarbital from the others especially in tablets.

(2) Extract 5 ml. of blood (slightly acidified with 1 drop of 5% sulfuric acid), with 25 ml. of chloroform. Collect the chloroform layer and shake out with 5 ml. sodium hydroxide 0.5 N. Save the sodium hydroxide layer and centrifuge to remove any adhering drops of chloroform. Read with a Spectrophotometer plotting the absorption curve in the ultraviolet range.

Barbiturates have a characteristic ultraviolet absorption spectra with a maximum density at 255 mμ and a minimum at 235 mμ. Quantitative determinations can be calculated from the reading obtained at 255 mμ, and comparing with a standard graph. This test is sensitive to 2 micrograms/5 ml. blood. The exceptions are pentothal (maximum density 300 mμ and minimum density 260 mμ), and Butisol, Evipal or Mebaral whose maximum density is 243 mμ and minimum density is 230 mμ.

(3a) Barbiturate derivatives may be further confirmed by shifting pH to 10.5 with ammonium chloride and re-examine the ultra-violet range as in above test 2. A new maximum is produced at 240 mμ. Butisol, Evipal or Mebaral do not produce *any* change with a shift in pH by adding ammonium chloride.

(3b) Paper chromatography will assist in identification.

(4) Some capsules may be suggestive by color.

Pentobarbital: Yellow or brown
Delvinal: Brown
Seconal: Red
Amytal: Blue
Tuinal: Blue and red

Treatment: Gastric lavage with water and tannin or activated charcoal. Cathartics. Avoid emetics if patient is depressed. Antibiotics prophylactically to prevent secondary infection especially when in coma. Hemodialysis (artificial kidney) if available will hasten elimination and recovery. If respiration is normal, color good, and twitching and corneal reflexes present, it may be advisable to "let patient sleep it off" watching to prevent aspiration and for the pos-

sible development of respiratory difficulties.

Keep air passages open, prevent aspiration. Artificial respiration and oxygen therapy with 5%-7% carbon dioxide as needed.

To combat respiratory depression, artificial respiration and oxygen usually may be effective and sufficient. The use of picrotoxin, metrazol or other strong analeptics is now believed to be ineffective and perhaps dangerous for patients in deep depression, and unnecessary for mild cases. Ritalin, Megimide (Bemegride), each have been reported with good results. If in shock, norepinephrine; fluids or blood are effective, if not contraindicated by pulmonary edema. Maintain body heat, water and electrolyte balance. Fluids and catheterization as needed.

Coma may persist for several days with the long acting barbiturates. Prognosis is good if you can prevent anoxia and pneumonia.

Careful nursing is essential!!

If levels are high (long acting derivative), and artificial kidney is not available, an exchange transfusion may be beneficial, especially for children.

Reference

Kaye, Sidney, Handbook of Emergency Toxicology: A guide for the identification, diagnosis and treatment of poisonings. C. C. Thomas, publishers, 2nd Edition, 1960, Springfield, Illinois.

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Real Cost of Medical Care Lower

The real cost of medical care, in terms of hours of work to purchase it, is less today than it was 20 years ago. This is the conclusion of the American Medical Association's Economic Research Department, based on data from the Bureau of Labor Statistics.

"The time that a factory employee worked in 1959 to purchase a given 'market basket' of medical care was only 61 per cent of the amount of time required in 1939, a decrease of 39 per cent," the A.M.A. reported in its fortnightly newspaper, the AMA News.

To pay for physicians' services required only 55 per cent as much working time in 1959 as in 1939. In 1959, a worker could earn the money to pay for a constant quantity of surgeons' services in less than half the time required in 1939.

Optometric examinations and eyeglasses show that about 42 per cent of the time worked in 1939 was required in 1959 for the purchases of these medical goods and services.

Only one part of medical care—hospital rates—required more working time to cover the increased cost. The factory worker in 1959 put in 122 per cent of the time worked in 1939, in order to purchase the same quantity of hospital services.

The A.M.A. pointed out, however, that qualitative changes in medical practices have resulted in shortened periods of hospitalization. Twenty years ago the average length of stay for a hemorrhoidectomy was 19.6 days. Today it is 7.6 days. The average length of stay for an appendectomy was 13.5 days; today it is only 6.7 days.

"Included in this decrease of real cost of medical care is the higher quality of today's service. Research and progress have produced drugs, technological instruments and improved methods in the management of disease which were non-existent 20 years ago."

Current Currents

LEGISLATION: This issue of Current Currents goes to press just as the administration makes its bid to tie medical care for the aged to the Social Security program. Members are urged to watch for full details in the AMA News.

THE TASK IS YOURS: At the risk of being repetitious, the following excerpt from the AMA News Extra of February 10 is reprinted because of its extreme importance to every physician:

"American medicine and allied organizations, vitally important bastions of freedom in this country, have never faced a more deadly challenge than they do at this moment.

Their foes, who have no concern for the niceties of truth or honor or ethics, are systematically trying to undermine the confidence of the people in the free institution of medicine to win their goal—socialized medicine.

The medical profession bears the brunt of this attack, and physicians can't afford to close their eyes and hope when they open them again the whole unhappy business will have disappeared.

They may awaken to the fact of government medicine. If they are socialized, their patients will be socialized as well.

Physicians, individually and collectively, must wrest the initiative from the labor leaders and others who are determined to destroy free medicine. What can you, as a physician, do?

You can explain to your patients the truth about socialized medicine, the danger in tying medical care to social security, the pitfalls in compulsory government medicine. You can explain what it would cost the people in terms of taxes and reduced quality of medical care.

You can be prepared to talk about the problems before local civic groups and other organizations. You can participate with your local medical society in activities to inform the public You can help persuade other organizations to join your cause.

You can make sure that everyone in your community with a legitimate need for medical care gets it regardless of ability to pay."

A.M.E.F.: A contribution to the American Medical Education Foundation is another way to which individual physicians can strike a telling blow in the battle to preserve freedom of American medicine.

QUOTE OF THE MONTH: The AMA's "PR Doctor", commenting upon the chal-

lenges confronting medicine, said: "You don't need a crystal ball to forecast that 1961 will be a year of increasing challenge and crisis for the world of free medicine, as it will be for our whole democratic way of life in the international realm. The paramount question which the medical profession must answer at this time is whether it is equal to the demands facing it in 1961, particularly whether it is prepared to stem a rising tide of support for government medicine. A losing proposition some may say —the die is already cast in favor of increasing government intervention in all phases of our economy. But this need not happen in the sphere of private medicine if we are willing to demonstrate to the world the indisputable superiority of our present system of medical care. This can be accomplished only if the profession, individually and collectively through its medical societies, makes a greater effort to provide adequate health care for every American regardless of his financial status, and to assume leadership in helping to solve important medical and health problems facing our nation today in such areas as medical care for the aged, mental illness, medical costs, medical recruitment, international medicine and others".

SERVICE CONTRACT RULING: The Washington Report on the Medical Sciences reports an interesting case involving a private medical practice group which sought to deduct, as business expense, the estimated value of service contracts that terminated over a period of years. It was the contention of the petitioner that each of the more than 8,000 contracts acquired by the group at time of purchase had an assigned value based on purchase price. Approximately $66,000.00 was written off as business expense when 2,200 of the contracts were subsequently terminated. Internal Revenue Service, however, said no. An appeal was then noted.

In rejecting the appeal, the U. S. Tax Court stated that the contracts comprised "a single, intangible, capital asset (which) had no limited or determinable useful life and could not be amortized. . ."

FALLOUT SHELTERS: Physicians and their wives are, in some localities, setting excellent examples of civil defense preparedness by building fallout shelters in their homes. Members of the Woman's Auxiliary to the AMA have been especially active in this field.

Of interest to many will be a new 27 minute film showing a simple, step by step construction of a basement corner-type masonry block fallout shelter. The film, sponsored by the National Concrete Masonry Association, should soon be available from State Civil Defense Offices. Prints may also be borrowed from concrete block producers.

DID YOU KNOW? Pennsylvania and Wisconsin have laws prohibiting women from working in dangerous or injurious occupations, and an Ohio law prohibits a woman from working as a pinsetter in a bowling alley.

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Poliomyelitis in Virginia, 1960

The pattern of poliomyelitis presented in Virginia in 1960 was different from what has been usually found. Throughout the United States the total number of cases was lower yet there was an increase in the paralytic rate. In this fact Virginia followed the pattern prevailing in this country.

It was surprising that not a case of polio was reported in Virginia during the first six months of the year. In July, day after day went by without a report of the appearance of poliomyelitis. The end of the month came and it was believed that seven months had passed without a case. This dream was dispelled when, on August 2, two reports came to the State Department of Health; the first case reported had its onset in Dickenson County on July 25, and the second case reported had developed in Mecklenburg County on July 9. The final count for the year showed that 58 cases had been reported through December.

The usual pattern is for the disease to make its appearance by May, to rise to a peak in August, and to present a secondary peak in September. The above figure shows that the first case occurred on July 9; that the first peak was reached during the week ending October 22; and that a second peak was noted during the week ending November 5. In each instance the number of cases reported during these peak weeks was eight.

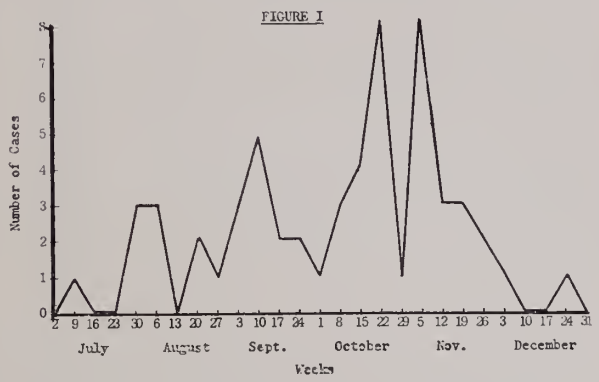

Figure I shows the number of cases of Poliomyelitis in Virginia per week by date of onset for the last 27 weeks of 1960.

In this table we see some significant facts that are different from the polio picture that we formerly recognized.

The first is that the number of cases of paralytic poliomyelitis so greatly exceeds the

TABLE I

Number of Paralytic and Non-Paralytic Cases of Polio Reported by Age Groups

Color and Sex	Paralytic									Non-Paralytic				
	0-4	5-9	10-14	15-19	20-29	30-39	40-49	Unk.	Total	0-4	5-9	10-14	Total	Grand Total
W-M	4	6	5	1*	2			1	19		2	1	3	22
W-F	6	2*	1		1				10					10
C-M	9	5	1*	2		2	1*		20	1			1	21
C-F	3	1							4		1		1	5
Total	22	14	7	3	3	2	1	1	53	1	3	1	5	58

*CM-7, CM-49, WM-19, WF-6 died. No Salk vaccine.
Table I shows number of cases by color, sex, age group and whether paralytic or non-paralytic.

number of non-paralytic cases. This may be due to several causes. It is recognized today that viruses other than the polio viruses cause illnesses that resemble polio and unless it can be proved that the disease-producing agent is one of the polio viruses, in the absence of paralysis, physicians are loath to diagnose the condition as poliomyelitis. Even when paralysis is present, it is wise to attempt to isolate the virus for identification as other viruses can cause paralysis.

The second fact, one that has been noted for the past few years, is that the most vulnerable age group is 0-4 years; formerly it was the 5-9 year age group. This may have been brought about by the widespread vaccination programs that have been set up in which the vaccine has been carried to the schools. It is a known fact that the groups above 4 years of age are better vaccinated than infants and toddlers.

A very striking fact is the large number of colored people who were stricken. Before the era of Salk vaccine, poliomyelitis was comparatively rare in the colored population. In 1960, forty-five percent of the cases and two of the four deaths occurred in Negroes. Surveys made in 1959 in several areas of Virginia showed that the colored citizens are less well immunized than the white people.

Poliomyelitis was reported from only 25 of the 98 counties of the State and from only 6 of the cities. There were no epidemics though Rockingham County, where an epidemic occurred in 1958, reported 7 cases and the City of Richmond reported 7. In Rockingham County, the first two cases had onset in September and the third in the middle of October. These were located in the northwestern section of the county. The last four cases were in the Dayton-Bridgewater area and their onsets were in November. These four were children of people who for some reason have opposed polio immunization. The cases in Richmond were scattered from August 3 to November 17; six of the seven cases were in Negroes.

TABLE II

Salk Vaccination Status of Reported Cases

	Paralytic						Non-Paralytic			
No. of Doses	0	1	2	3	4	Unk.	0	1	2	3
Unknown	1									
0-4	12	2	2	6						1
5-9	9	2	1	1	1		1	1		1
10-14	5			1		1		1		
15-19	2		1	2						
20-29	1									
30-39	2									
40-49	1									
Totals	33	4	4	10	1	1	1	2		2

The above table shows the number of doses of Salk vaccine which had been received by the patients reported in the various age groups, both paralytic and non-paralytic.

Thirty-four of the 58 cases had had no Salk vaccine and 44 of the 58 had received fewer than the three doses considered to be the number necessary for full immunization. A booster dose, to be administered one year

after the immunization series, is advised and only one of the 58 had been given this dose. The vaccination status of one of the reported cases is unknown at this time. The four deaths recorded occurred in persons who had received no Salk vaccine.

The facts shown in reviewing the poliomyelitis cases reported in Virginia in 1960 emphasize the need for more extensive immunization through the use of polio vaccine. This is especially true for the age group 0-4 years and for those living in isolated and substandard areas. Though every county and city in the State has pushed the administration of Salk vaccine, there are still many who do not see fit to heed the advice given that all persons 40 years of age and under should be protected with the vaccine. Many adults think that "it can't happen to me" and do not bother to be immunized. Many parents are not assuming their responsibility to protect their children. What could be sadder than for a child to be crippled or to lose his life because an indifferent parent has not given him a chance to become immunized against a disease for which there is a protecting agent? There is still opportunity to obtain partial immunization before the 1961 polio season starts.

It has been announced, and the announcement has been repeated, that oral poliomyelitis vaccine will not be generally available until 1962. Delay because one would prefer to ingest vaccine rather than have it "stuck in with a needle" is not advised. It has not been established under what conditions, to what groups, or just how the oral vaccine will be administered.

The less chance the virus has to establish itself in an individual, the less chance it has to spread. It follows that the more people there are who become immunized, the less chance the virus will have to find an individual who is susceptible and in whom it can grow and reproduce itself. By being vaccinated you help others as well as yourself.

Monthly Report of Bureau of Communicable Diseases

	Jan., 1961	Jan., 1960
Brucellosis	0	2
Diphtheria	2	4
Hepatitis (Infectious)	91	85
Measles	1429	638
Meningococcal Infections	6	7
Aseptic Meningitis	1	3
Poliomyelitis	0	0
Rabies (In animals)	19	26
Rocky Mt. Spotted Fever	2	0
Streptococcal Infections	593	863
Tularemia	2	19
Typhoid	0	1

Cancer Trends . . . .

GEORGE R. PROUT, Jr., M.D.

A Matter of Natural History

The natural history of disease represents an ever present yardstick against which the efficacy of therapy can be measured. No complete history of cancer in human beings is known, but by virtue of manifestation, several neoplastic processes lend themselves readily to such retrospective evaluation. Obviously, time of onset of symptoms with subsequent proof of existence of the neoplasm constitutes a reasonably reliable, but admittedly incomplete detailing of the life span of a given tumor. We have done this with regard to bladder carcinoma[1] and Welch and Nathanson have documented the life expectancy of patients with malignancies arising in a variety of sites.[2.a,b,c,3] Unfortunately for all concerned, cancer does not always behave the way we think or feel it should. Obvious disparity of survival between cases of untreated cancer arising in the same site but in different hosts can be recalled by clinicians with even scant experience. Hence it becomes obvious that accurate records and objective techniques in reporting are paramount in the detailing of the history of untreated neoplastic disease. Otherwise, the efficacy of the therapeutic efforts may never be appreciated.

Of the many malignancies about which little is known regarding the natural history, prostatic carcinoma is one of the most common. Even though over twelve thousand men die *from* prostatic carcinoma in the United States annually, far more men over the age of fifty-five die *with* the disease. Certain it is that in over fifteen per cent of all the men in the United States fifty years of age and over there resides at least one segment of prostatic tissue that will satisfy all the histologic criteria of cancer.[4] At present no reliable means of detecting these lesions are available short of actual open perineal biopsy for there are no clinical manifestations of the disease. Hudson has conducted a study, biopsying by open technique the prostates of men in whom neoplasm was suspected.[5] Thirteen per cent were proven to have histological evidence of cancer, yet no urinary or systemic symptoms and no physical findings in the great majority suggested the presence of this area of neoplasm. Equally as certain is the fact that at least eight-five per cent of all clinically manifest carcinoma of the prostate cannot be cured by any means when the patient is first seen by a urologist. Somewhere in between these two extremes there lies a period during which the tumor is manifest in terms of an incidentally found area of stony hard induration in the prostate that has not extended beyond the gland locally, nor has it metastasized to distant nodes or bone. Even though a precise estimate cannot be made as to the length of time required for a given tumor to progress from a latent cancer to a clinically manifest one, from available statistics Hirst and Bergman have calculated that it takes about twenty years for this alteration in biological potential to occur.[6] Obviously, the inclusion of treated patients with histological carcinoma that is biologically inactive in terms of host compromise with a series of treated patients with clinically manifest cancer will mightily influence the result of the treatment in terms of five year survival. Indeed, it might be speculated that those patients with latent carcinoma survive in spite of the therapy. Even when manifestation is in the form of

Prout, George R., Jr., M.D., *Associate Professor and Chairman of the Division of Urology, Department of Surgery, Medical College of Virginia, Richmond.*

a stony hard nodule, we are in something of a moral dilemma regarding therapy because there are no truly reliable statistics concerning the period of time that usually elapses between localized, manifest carcinoma and locally invasive disease which indicate inoperability. As surgeons, our attitude is to remove such tumors by radical perineal or retropubic prostatectomy, but at present this conviction is based more on emotion than logic.

More and more attention is being directed to the result of no therapy in incidentally found latent cancer and there is distinct evidence that such individuals survive about as well as the actuarial expectancy.[7] The more tissue found to be malignant, the poorer the survival, however, even though the malignancy was unsuspected when removed.[8] Similar results were obtained when radical perineal prostatectomy was carried out in manifest malignancy.[9] The more localized the disease, the better the five year survival.

Only after more time has elapsed and most particularly only after careful evaluation of every untreated patient known to have latent carcinoma will we be in a secure clinical position to select or reject patients for definitive extirpative therapy. Several major questions remain unanswered in the natural, untreated history of prostatic cancer. Two are pressing: after what length of time does the latent cancer become manifest and how long does the disease remain manifest before metastases occur? Only when these questions are answered can we proceed with certainty.

Bibliography

1. Prout, G. R., Jr. and Marshall, V. F.: The prognosis with untreated bladder tumors. Cancer: May-June 1946 and as a symposium, Bladder Tumors, published by J. B. Lippincott Company, Philadelphia and Montreal, December, 1956.
2. Nathanson, I. T. and Welch, C. E.: Life expectancy and incidence of malignant disease.
   I. Carcinoma of the breast. Am. J. Cancer 28: 40, 1936.
   b. Nathanson, I. T. and Welch, C. E.: Life expectancy and incidence of malignant disease.
   II. Carcinoma of the oral cavity: Am. J. Cancer 31: 238, 1937.
   c. Nathanson, I. T. and Welch, C. E.: Life expectancy and incidence of malignant disease.
   III. Carcinoma of the gastrointestinal tract: Am. J. Cancer 38: 457, 1937.
3. Welch, C. E. and Nathanson, I. T.: Life Expectancy and incidence of malignant disease. IV. Carcinoma of the genito-urinary tract: Am. J. Cancer 31: 586, 1937.
4. Edwards, C. N., Steinthorsson, E. and Nicholson, D: An autopsy study of latent prostatic cancer. Cancer 6: 531, 1953.
5. Hudson, P. B., Finkle, A. L., Hopkins, J. A., Sproul, E. E. and Stout, A. P.: Prostatic Cancer IX. Early prostatic cancer diagnosed by arbitrary open perineal biopsy among 300 unselected patients. Cancer 7: 690, 1954.
6. Hirst, A. E. and Bergman, R. T. Carcinoma of the prostate in men eighty or more years old. Cancer 7: 136, 1954.
7. Greene, L. F. and Simon, H. B. Occult carcinoma of the prostate. Clinical and therapeutic study of eighty-three cases. J.A.M.A. 1958: 1494, 1955.
8. Bauer, W. C., McGavran, M. H. and Carlin, M. R. Unsuspected carcinoma of the prostate in suprapubic prostatectomy specimens. Cancer 13: 370, 1960.
9. Turner, R. D. and Belt, E. Study of 229 consecutive cases of total perineal prostatectomy for cancer of the prostate. J. Urol. 77: 62, 1957.

Mental Health . . . .

JAMES B. FUNKHOUSER, M.D.

A Controlled Study of After-Care

Over two years ago Colorado, Michigan, Pennsylvania, Kentucky, and Virginia, with technical and financial assistance from Smith, Kline and French Laboratories, set up a controlled investigation of after-care in State mental health programs. In brief, all patients released from one hospital in each state (and meeting certain diagnostic requirements) were randomly assigned to one of two groups, (1) the control or conventional procedure group and (2) the after-care or study group. In other words, a random assignment into one of these two groups caused certain patients when released to forge for themselves whereas certain others were assigned to a regular program of follow-up visits to psychiatrists and social workers. Patients discharged with geriatric disorders, mental deficiency, alcoholism, or organic brain disease were excluded from this study. Also, those patients who could not be safely released unless to report to a follow-up program were not included. Such excluded patients were seen as they would have been otherwise, but had no direct influence on the study.

After 10 months a team of skilled social workers visited the patients who had not had any definitive "after-care" to learn their status. This group was then compared to the "study group" who had been regularly seen.

If satisfactory adjustment in the community was reported, the trial visit was considered a success. If the patients had been returned to the hospital, the case was rated as a failure.

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Approved for publication by Commissioner, Department Mental Hygiene and Hospitals.

The entire study consisted of 116 patients, 54 of which were in the study group and 62 who were in the control group. The distribution of the types of illness, the age groups and the range of ages were approximately the same in the two groups at the end of the study period. These details have been reported elsewhere.[1]

It was not possible to learn (because of inadequate data) how many patients in the control group took drugs. It was the definite impression of social workers who made the survey that the majority of the control cases did not take drugs, after they ran out of the short supply furnished to them at the time of leaving the hospital. Approximately 85% of the study group who were being regularly seen received drugs. Since all patients in both groups were followed until the last day of the study, it was possible to calculate the actual number of days out of the hospital for both groups, as well as a rehospitalization rate for both groups. These data are summarized in Table I. Since a number of patients who were assigned to the after-care group did not keep their appointments and did not participate, they were excluded from the analysis.

TABLE I—Summary of Results[2]

	PARTICIPATING STATES					
Criteria	Colo.	Ky.	Mich.	Penn.	Va.	Composite Average
Control Group						
No. of Patients Studied	77	55	90	38	62	
Per Cent Rehospitalized	24.7	21.8	50.0	26.3	43.5	35.1
After-care Group						
No. of Patients Studied	64	42	71	43	54	
Per Cent Rehospitalized	17.2	14.3	11.3	16.3	14.8	14.6

Considerable dissimilarity, both geographical and organizational, existed in the after-care programs of the various states. It is surprising, therefore, that the results of the various participating states are so similar, particularly in the "after-care group". The dissimilarities in the control group as seen in the table above show a higher percentage of rehospitalization in Michigan and Virginia. Many things could be considered to explain this, not the least being that the patients who have had a not-too-unpleasant hospital stay are more willing to return to a hospital. Other things such as community attitudes and socio-economic conditions are important factors. A composite average of 35.1% of returns to the hospital for those who did not have after-care coincides very closely with the national rehospitalization rate.

It is obvious that the relapse rate can be sharply reduced by an after-care program.

References

1. Barrett, Joseph E., M.D.: After-Care Clinics—Report of Survey, Mental Health in Virginia, Winter—1960—Pages 17-19.
2. Free, Spencer, M., Ph.D. and Dodd, David F.: MBA—After-Care for Discharged Mental Patients—unpublished data—personal communication.

Prevent Kidney Stones

If as much attention were paid to the diet of adults as it is to children, "tremendous strides" could be made in preventing kidney stones, according to Dr. Hans H. Zinsser, New York City.

"Among the most striking changes in pediatric practice over the past 30 years has been the gradual disappearance in the United States of the problem [of kidney stones] . . . in children," Dr. Zinsser said in the December 17th Journal of the American Medical Association.

"Increasing attention to the nutritional problems of children is the only common factor to which this progress can be attributed. It seems highly likely, if similar attention is paid to the diet of adults in the United States and to children in the rest of the world, that tremendous strides can be made in the prevention and eradication of the stone problem."

Attention should be directed to relative deficiencies within known nutritional intakes rather than to any single deficiency.

"The American diet, like that of many other countries, is higher in milk products than is necessary for bone maintenance in adults. Whereas the normal individual may tolerate urinary calcium loads of several grams a day, it is unlikely that the patient shown to have a predilection for forming kidney stones can do the same."

He also pointed out that some commonly used antacid preparations are high in calcium carbonate content.

The origin of a number of calcium stones has been traced to the administration of some multiple vitamin preparations creating an excess of vitamin D which has an adverse effect on calcium balance.

Controlling diet, however, cannot eliminate all kidney stones since some are caused by infection.

Dr. Zinsser is associated with the Department of Urology, Columbia University College of Physicians and Surgeons.

Pre-Paid Medical Care. . . .

Edited by
RICHARD J. ACKART, M.D.

The Cost of Medical Care

BENJAMIN W. RAWLES, Jr., M.D.
Richmond, Virginia

Today, to be able to practice the art and science of medicine under our free-enterprise system and with no concern about the cost of medical care would be an ideal situation, one which all physicians undoubtedly would welcome most gratefully. But the trends, social and political, of the past several years point all too obviously to the fact that if we do not concern ourselves more with the economic aspects of medicine, the public in general will join with Labor and other groups to demand that governmental controls and regulations supersede free-enterprise. It may already be too late to prevent this. Nonetheless, with the hope that further restrictions upon individual freedoms might yet be forestalled, and with the knowledge that bureaucratic control will undoubtedly lower the quality of medical care while actually increasing its cost, we as physicians now must make sure that each medical dollar is safeguarded and not spent unnecessarily.

The dollar-wastage of unnecessary hospitalization and excessive utilization is of growing concern, not only to Blue Cross and the private indemnity companies, but also to the public in general. That there is wastage of medical dollars here in Virginia is evidenced by the fact that the Blue Cross patients in this State have an average length of hospital stay greater by almost a full day than the average of all Blue Cross patients across the nation. Does this indicate that our patients are sicker and, therefore, require longer hospitalization, or does it indicate a different pattern of practice?

In an effort to prevent unnecessary hospital admissions and also to curtail unnecessarily long hospital stays, the largest of our Blue Cross Plans here in Virginia has had to add certain contractual controls. Early in 1960 a $50 deductible policy was instituted for individuals and groups not experience rated. Subsequently, it was necessary to add a co-insurance feature in an effort to further reduce the utilization rate. Under this arrangement, a $12.00 a day limit is provided for the cost of room and board. This means that the Plan-member is responsible, on the average, for an additional $3.00-$4.00 per day for the cost of a bed in a two-unit room. It is hoped that these two measures will reduce the utilization rate and the average stay, but it is too early to tell what actual effect these changes will have.

Some physicians argue that they should not have to police hospital admissions or discharges. However, it is obvious that unless we make it our concern, we will find that others will make it theirs. In any event, a physician should welcome the opportunity of self-analysis of his medical practice patterns, to the end that the quality of the care rendered to his patients will be improved and the costs kept to a minimum, without endangering the medical service rendered the individual.

Except in the admission of extreme emergencies, the physician controls a large part of the cost of hospitalization. Approximately sixty percent of hospital costs are under the direct influence of the attending physician. At first reading, this might be hard to believe. But we must remember that it is the physician who decides whether hospitalization is necessary for the best interest of the patient, and subsequently he is

responsible for ordering drugs, laboratory procedures, radiological examinations, physical therapy, electrocardiograms, and other special examinations and treatments. Finally, the decision to discharge the patient is the physician's, although in some instances it would seem that the exact date of discharge is dictated by the patient for his convenience.

Why should utilization of hospital facilities be of any concern to us as physicians? If the individual patient were paying the entire cost of hospitalization from his own funds, we could let him spend his money as he wishes. However, since fifty-four percent of all Virginians[1] are covered either by Blue Cross or by private indemnity insurance, and the annual cost to these many people is determined by utilization experience, it has to be our concern. A continuing increase in the cost of food, supplies and labor, over which we have no control, is going to bring about progressive increases in prepayment rates. If, to this, we add the cost of unjustified hospitalization, the voluntary prepayment system will soon price itself out of the market—to be replaced by an even more costly and less efficient government program of medical care. There is also one other reason why we should be concerned. If patients are unnecessarily admitted, beds may not be available at all times for acutely ill patients. In other words, at many hospitals bed-reserves are almost non-existent because the beds are occupied by patients who might just as well be treated as out-patients or treated at home.

If we truly have the best interests of the patient at heart and wish to maintain for that patient and ourselves the present system of the practice of medicine, how can we justify additional days of hospitalization for the patient's personal convenience? How can we justify the admission of ambulatory patients for x-ray examinations or for physical therapy? How can we justify ordering questionable drugs or diagnostic procedures, just because the patient has prepaid coverage of the expenses involved? We cannot.

Delay in ordering indicated studies for the work-up of the patient, delay in requesting necessary consultations, ordering expensive and unnecessary drugs, failure to cancel orders when no longer needed—all add to the cost of hospitalization and will result in private indemnity contracts covering a smaller percentage of that cost and in increases of Blue Cross rates.

We do not want anything denied our patients, regardless of cost, that might be necessary for their welfare and recovery, but we have an obligation to patients and to ourselves periodically to analyze the pattern of our practice. This is the only way we can maintain the free choice of physician system of medical practice.

Will we accept the challenge?

1. "Source Book of Health Insurance Data—1960" Health Insurance Institute.

Minutes of Council Meeting

A meeting of the Council of The Medical Society of Virginia was called to order by Dr. Guy W. Horsley, President, January 11, 1961, at Society Headquarters. Attending were Dr. Horsley, Dr. Russell Buxton, Dr. Mallory Andrews, Dr. Harry J. Warthen, Dr. Paul Hogg, Dr. K. K. Wallace, Dr. Thomas W. Murrell, Jr., Dr. Fletcher J. Wright, Dr. William N. Thompson, Dr. Alexander McCausland, Dr. Dennis P. McCarty, Dr. James G. Willis, Dr. W. Fredric Delp and Dr. Richard E. Palmer. Also in attendance were Dr. Harold W. Miller, 3rd Vice-President, Dr. Vincent W. Archer, Delegate to AMA, Dr. W. Linwood Ball, Delegate to AMA, Dr. Kinloch Nelson, Vice-Speaker of the House of Delegates, Dr. Russell M. Cox, Secretary-Treasurer of the Virginia State Board of Medical Examiners, Dr. Richard Ackart, Executive Director of Virginia Medical Service Association, and Mr. John B. Duval, attorney for the Society.

Dr. Horsley acquainted Council with the problem confronting the Virginia Medical Service Association with respect to payments being made for services performed by internes and residents. It was pointed out that this arrangement only applies to certain departments at the University of Virginia, and only then in certain instances. Dr. Ackart stated that the present Blue Shield contract excludes payment for services by internes and residents, and the situation at the University must be considered as an extra contractual arrangement. The arrangement was actually set up to take care of a situation which exists only at teaching hospitals.

A motion was then introduced which would recommend to the Richmond Blue Shield Board that the present contract be left unchanged and that it be policed as worded. The motion was seconded.

During the ensuing discussion, Council was asked how a teaching hospital can accomplish its purpose should the present policy be discontinued. It was pointed out that in Rochester 95% of the population are covered by Blue Shield. Dr. Andrews then requested that his motion be withdrawn.

A substitute motion to change the wording of the physician's affidavit on the claim form was lost for lack of a second. Another substitute motion was introduced referring the entire question to the Committee on Medical Service for further study. This motion was also lost for want of a second.

Dr. Horsley then ruled that Dr. Andrews' original motion could not be withdrawn since the Councilor who had seconded it did not consent.

It was agreed to amend the original motion to read as follows:

> "It is moved that the Council of The Medical Society of Virginia recommend to the Board of the Virginia Medical Service Association that the present contract remain unchanged and that it be policed as worded.
>
> It is further moved that, regardless of action at this time, the question be referred to an appropriate committee of the Society for further study."

The motion carried.

Another question concerning Blue Shield payments was raised—this one having to do with payments to practitioners other than M.D.'s. It was brought out that under the new government employee contracts, payments must be made to osteopaths, podiatrists, etc. Dr. Wallace then reported that a resolution had recently been adopted by the Norfolk County Medical Society opposing payment by Blue Shield for services performed by practitioners other than M.D.'s. It was also mentioned that the Board of the Virginia Medical Service Association

felt the same. It was moved and adopted that Council support the Board's decision.

Council was advised that a modification to the roof of the Headquarters building was necessary to correct a major defect which had resulted in two damaging flood conditions within the building. There was some discussion concerning whether or not the architect and contractor might be responsible and it was generally agreed that the matter should be referred to the House Committee and Mr. Duval for such action as they believe necessary. A motion to this effect was adopted.

Council was then advised that some progress had been made toward developing a retirement plan for physicians' office assistants. It was moved that the matter be referred to the Insurance Committee for its study and recommendation. The motion carried.

Council was then asked whether the present method of reimbursing the Society's delegates to AMA for their expenses was adequate. It was explained that delegates are presently paid a $20.00 per diem in addition to the cost of transportation. Brought out was the fact that costs have been steadily mounting and in many cities, the $20.00 per diem barely pays for the hotel room. It was also learned that delegates sometimes pay as much as $12.50 for dinners which are arranged especially for them.

It was moved that all reasonable and legitimate expenses incurred by the delegates be paid by the Society. Delegates would be expected to submit an itemized expense account. The motion was adopted.

Dr. Horsley explained the procedure followed by the Governor's Commission on the Aging in recommending delegates to the White House Conference. He reported on a meeting between the Executive Secretary and the Commissioner on Aging and stated that a better understanding between the Society and the Commission was developing.

The President then called attention to the fact that the Society has no definite policy concerning sick leave for its employees. He also stated that it might be well to take a new look at the vacation policy which currently exists. Each employee is now granted two weeks each year, regardless of service. Dr. Wright called attention to a recent article in Medical Economics dealing with these very questions. It was also mentioned that many organizations solve the sick leave problems through the medium of sickness and accident insurance. It was then moved that the question of sick leave and vacations be referred to an appropriate committee for study and recommendations. The motion carried.

Dr. Horsley then raised a question concerning whether the Society should consider a Christmas bonus for its employees. He explained that the question was being raised although the Executive Secretary had hoped it would not be included on the agenda. It was mentioned that industry in many instances awarded each employee one week's pay. It was moved that the question be referred to the Finance Committee for study. The motion carried.

Next on the agenda was a request from the Virginia "Food Comes First" Committee that the Society again make a contribution in order that two teenagers might be sent to the National "Food Comes First" Conference in Chicago. The Society had contributed $50.00 last year. The Virginia Committee was formed by the Virginia Farm Bureau Federation, one of the Society's strong allies. It was agreed that $50.00 should once again be contributed.

A question was raised concerning the advisability of having the various specialty groups appoint delegates to represent them at the Annual Meeting. Although it was learned that AMA accepts delegates from the various sections, it was believed that such a policy would serve no really good purpose at the State level. A motion that the matter be referred to an appropriate committee for study was withdrawn.

It was then moved that the present pol-

icy of appointing delegates be left unchanged. The motion was adopted. It was also moved that the names of any observer delegates appointed by specialty groups not be published. It was believed that this might cause some misunderstanding and confusion. The motion carried.

It was announced that a special VALC Committee would meet in Richmond on January 26 to consider the question of milk sanitation control. It was recalled, too, that the House of Delegates had adopted a resolution in October approving a tentative agreement that had been reached between the State Commission of Health and the Commission of Agriculture. The agreement was that the Department of Agriculture would be responsible for the inspection of milk on the farm and all the way to the processing plant. The Department of Health would take over this responsibility at the processing plant and all the way to the consumer. It was believed that the Society should be represented at the VALC hearing, and a motion was introduced authorizing the President to appoint a representative. The motion carried.

A letter from the President of the Norfolk County Medical Society inviting The Medical Society of Virginia to hold its 1964 Annual Meeting in Norfolk was read. It was moved that the Society accept the invitation and that available dates be obtained as soon as possible. The motion was adopted unanimously.

Council was informed that the American Medical Association was considering the advisability of establishing a National Political Action Committee. After considerable discussion, it was agreed that while there were certain valid objections, Council should not turn its back completely on such an idea. It was recognized that the time might well be near when such a committee might become necessary. It was also thought that perhaps a mild protest should be made concerning the proposed name of the committee. It was thought that the word "Advisory" should be substituted for the word "Action".

A motion approving in principle the formation of a National Political Advisory Committee was then adopted.

Dr. Russell Cox, Secretary of the State Board of Medical Examiners, was invited to advise Council of any matters he believed should be brought to its attention. Dr. Cox reported that the Board appears to be well on its way to solving the problem of foreign graduates as far as licensure is concerned. He also reported that it might be necessary for the Board to request an increase in the annual registration fee. Additional income is necessary if the Board is to properly carry out its responsibilities. The present fee is $1.00 and the increase might possibly be to $3.00. Dr. Cox also stated that some thought is being given to proposing certain changes which will make the Medical Practice Act a more effective vehicle. It is believed that many things in the Act should be deleted and, instead, included in the By-Laws of the Board.

Dr. Ball then advised Council that the Virginia delegation to AMA had introduced the resolution on the Joint Commission on Accreditation of Hospitals as directed by the House of Delegates last October. He stated that the problems set forth in the resolution had been covered in a special report of the AMA Board of Trustees. This special report was adopted by the AMA House of Delegates during the Interim Session in Washington.

Council was briefed on the very fine Health Careers Recruitment Program being carried on by the Virginia Council on Health and Medical Care and an endorsement of the program was requested. The following resolution was then adopted: "RESOLVED that The Medical Society of Virginia endorse the excellent Health Careers Recruitment Program being carried on under the direction of the Virginia Council on Health and Medical Care, and that all component medical societies and individual members coop-

erate with the Council in order to assure the success of the program."

Considered next was the advisability of arranging another luncheon meeting with Virginia's Congressional representatives. Everyone agreed that the meeting last year was one of the most worthwhile things ever attempted. It was moved that arrangements for such a meeting be left entirely to Dr. Archer, Chairman of the Committee on National Legislation. The motion was adopted.

The Executive Secretary was then directed to arrange with AMA for copies of the "Legislative Roundup" to be sent each member of Council.

A letter from the National Foundation requesting the Society to submit nomination for the Foundation's Award Committee was read by Dr. Horsley. It was moved that the President be authorized to submit three names for the Foundation's consideration. The motion carried.

Dr. Horsley reported that a Cancer Coordinating Committee has recently been formed in Virginia and that, in his opinion, the Society's representative should be the Chairman of its own Cancer Committee. It was then moved and passed that the President be authorized to appoint a representative to the Coordinating Committee.

Dr. Palmer stated that the operation of emergency rooms in some hospitals would undoubtedly be affected by the AMA decision on foreign graduates who have not passed the ECFMG examination. The question was raised as to whether the hiring of physicians to actually operate emergency rooms and care for indigent patients might be the solution. It was reported that there are several hospitals, thought to be in Texas and Colorado, which have physicians on a retainer basis. It was decided to refer this question to the Committee on Medical Service.

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD, *Secretary*

Approved:

GUY W. HORSLEY, M.D., *President*

Forced Retirement Declining

Compulsory retirement of employees at age 65 is on the decline, according to the December 31st Journal of the American Medical Association.

"In recent years some companies, as well as the public, seem to favor a more liberal retirement policy," a Journal editorial said. "One reason for the change in public opinion is that more employees are in good health at 65 today than a generation ago and continue to use their experience and skill to the benefit of their employers as well as to themselves.

"The American Medical Association Committee on Aging asked labor and industry to re-evaluate their support of arbitrary retirement systems, and a sizeable number of firms did liberalize their retirement programs."

The editorial quoted a statement by former A.M.A. President Louis Orr, Orlando, Fla., which said:

"There is no scientific rhyme or reason for selecting 65 as the magic number separating the productive from the non-productive, the healthy from the unhealthy. Physicians have no convenient rule of thumb definition for old age. . . .

"In America, our attitude toward the aging has undoubtedly contributed to the steadily increasing number of persons 65-and-over in mental hospitals. In Japan, a society which traditionally assigns positive assets and values to aging, mental illness actually decreases with age. . . .

"The dangers of compulsory retirement are clear and urgent."

Woman's Auxiliary . . . .

President Mrs. F. Clyde Bedsaul, Floyd
President-Elect Mrs. William F. Grigg, Jr., Richmond
Vice-Presidents Mrs. Robert Keeling, South Hill
Mrs. Theodore McCord, Fairfax
Mrs. Byron Eberly, Portsmouth
Recording Secretary Mrs. A. B. Gravatt, Jr., Kilmarnock
Corresponding Secretary Mrs. J. Glenn Cox, Hillsville
Treasurer Mrs. James M. Moss, Alexandria
Publications Chairman Mrs. Custis L. Coleman, Richmond
Directors Mrs. Walter A. Porter, Hillsville
Mrs. Charles A. Easley, Jr., Danville
Mrs. John R. St. George, Portsmouth

Annual Meeting.

The Thirty-Eighth Annual Meeting of the Woman's Auxiliary to The Medical Society of Virginia convened in the Sun Parlor of the Cavalier Hotel on Tuesday, October 11, 1960, at 9:00 A.M., with Mrs. Walter Porter, President, presiding.

Mrs. Hawes Campbell, Convention Chaplain, gave the invocation.

The Pledge of Loyalty to the Woman's Auxiliary to the American Medical Association was read in unison.

Mrs. Porter introduced Dr. Guy Horsley, President of The Medical Society of Virginia, who gave a brief address emphasizing the importance of the Auxiliary members as public relation agents.

Mrs. Porter recognized Mrs. Joseph T. McFadden, President of the Norfolk County Auxiliary, who gave the Address of Welcome.

Mrs. Robert L. Norment, President of the Auxiliary to the Arlington Medical Society, gave the Response to the Welcome.

Mrs. Robert Keeling, Recording Secretary, called the roll with thirty-eight members responding. The minutes of the Thirty-Seventh Annual Convention were read and accepted as approved by the reading committee.

Mrs. Porter presented as Honored Guests, Mrs. William Mackersie, President of the Woman's Auxiliary to the American Medical Association, and Mrs. John M. Chenault, President of the Woman's Auxiliary to the Southern Medical Association. Mrs. Porter also recognized Mrs. Kalford W. Howard as President-Elect of Southern.

Mrs. H. H. Braxton conducted an "In Memoriam" service for the following deceased members:

Mrs. Ralph S. Faris
Mrs. Claude Marshall Lee
Mrs. P. E. Lilly
Mrs. J. Walker Jackson
Mrs. Aubrey L. Shelton

Mrs. James Moss, Treasurer, gave her report as follows: balance in treasury, $2,880.62. This report was accepted and filed for audit.

There being no unfinished business, the program proceeded with the introduction of new business.

Mrs. F. Clyde Bedsaul presented the Rockingham Auxiliary with five dollars as an award for first place in the scrap book contest. Mrs. Walter Porter presented the Portsmouth Auxiliary with five dollars as an award for first place in the Exhibit contest. She also presented the Newport News Auxiliary with the A. M. E. F. Certificate of Achievement.

The following recommendations from the Board were read by the Secretary who moved their adoption:

> That the proposed budget for 1960-61 be accepted as read.
>
> That the by-laws be revised for the next year.

These recommendations were adopted as read.

Mrs. Walter Porter read her Annual Report to the Convention.

Mrs. F. Clyde Bedsaul gave a report of Delegates to the Woman's Auxiliary to the American Medical Association.

Mrs. Porter recognized Mrs. C. C. Hatfield, who stressed the importance of subscribing to the Bulletin. Southwestern Auxiliary was awarded five dollars for having the largest increase in Bulletin subscriptions in the past year.

In the absence of Mrs. E. Lynwood Bagby, Mrs. Charles Easley gave the report of the nominating committee as follows:

President: Mrs. F. Clyde Bedsaul
President-Elect: Mrs. William Grigg
1st Vice President: Mrs. Robert Keeling
2nd Vice President: Mrs. Theodore McCord
3rd Vice President: Mrs. Byron T. Eberly
Recording Secretary: Mrs. A. B. Gravatt
Treasurer: Mrs. James M. Moss

There being no further nominations, a motion was made that nominations be closed. Motion carried. The slate was voted on as a whole and elected by unanimous vote.

Mrs. Porter introduced Mrs. William Mackersie who addressed the Convention on the theme for her term of office "Preserve and Enhance the Heritage of American Medicine". She emphasized the importance of voting, of being informed of the policies of A.M.A. and extension of the Health Career activities.

Mrs. Porter then introduced Mrs. John M. Chenault, who spoke on the history of Southern and its aims.

Mrs. C. M. McCoy, Credentials Chairman, gave her report as follows: two hundred sixty-six members registered.

Mrs. Hawes Campbell, in the absence of Mrs. Wyndham B. Blanton, Jr., read the Courtesy Resolutions. She moved their adoption. Motion carried.

There being no further business, the meeting was declared adjourned to reconvene for the Inaugural Luncheon.

Luncheon:

The Luncheon Meeting was called to order by the President, Mrs. Walter Porter. Mrs. Hawes Campbell gave the Invocation.

Mrs. Porter presented Honored Guests. Mrs. William Mackersie installed the Officers of the Woman's Auxiliary to The Medical Society of Virginia for 1960-61.

Mrs. Porter presented the President's Pin and Gavel to the newly elected president, Mrs. F. Clyde Bedsaul. Mrs. Charles Easley presented the past-president's pin to Mrs. Walter Porter, retiring president.

Mrs. F. Clyde Bedsaul gave her Inaugural Remarks.

Convention Chairman, Mrs. Mallory S. Andrews, gave a few announcements pertinent to her office and thanked her committee.

Mrs. Bedsaul declared the Thirty-Eighth Annual Meeting of the Woman's Auxiliary to The Medical Society of Virginia adjourned.

DOROTHY KEELING, *Secretary*
(Mrs. Robert D.)

Scrapbook.

Is your Auxiliary represented in the State Scrapbook? We do want to know what you are doing.

All Auxiliary Historians are asked to send dated pictures, articles and programs to the State Historian, Mrs. Byron T. Eberly, 301 Park Road, Portsmouth.

Alexandria.

This Auxiliary started the year off with a bang preparing for their money-raising event in October. In fact, by the September meeting, the ground work had already been completed for the benefit performance of "The Tinder Box", put on by the Suzari Marionettes of New York. As a result of an excellent job of organizing and a great deal of hard work put forth by Mrs. John Ransmeier, chairman of Ways and Means, her co-chairmen, Mrs. Christopher J. Murphy and Mrs. William Weaver, the benefit proved a huge success and $1000.00 was netted from the two performances. All expenses were covered by soliciting ads for the program, on which project Mrs. Titus did

yeoman service. The newspapers gave excellent coverage, with several eye-catching pictures appearing before the performance.

In November, the Auxiliary presented to the Alexandria Hospital a check of $2,000 which completed their pledge of $6,000 to the Building Fund.

Our bridge marathon, which consists of several bridge groups—now with more non-medical than medical participants—in the Alexandria area is in its fourth year and has prove a successful annual fund raising project.

Social service projects include a scholarship to a student nurse at the Alexandria Hospital School of Nursing, a mistogen unit donated to the Welfare Clinic for a nine year old boy with cystic fibrosis, and our Shoe Center, which, according to the welfare agencies, serves a great need. A survey is now under way to determine the feasibility of expanding our services and spending some of our funds for shoes.

On November 19th, a dinner dance was held jointly with the Arlington Auxiliary. A fashion show featuring both male and female apparel was included. The affair was a huge success and we hope it will become an annual undertaking.

The officers for 1960-61 are: President, Mrs. Robert Anderson; president-elect, Mrs. James Moss; treasurer, Mrs. William Perry; corresponding secretary, Mrs. James D. Mills; recording secretary, Mrs. Roy Gillinson; parliamentarian, Mrs. John D. Hoyle; historian, Mrs. Christopher J. Murphy; immediate past president, Mrs. Walter Brennan.

We have taken in four members this fall, which brings our roster to sixty-seven.

Jean C. Murphy
(Mrs. Christopher J.)

Northampton-Accomack.

This Auxiliary met on January 10th at the home of Mrs. John Rogers Mapp, Nassawadox. Twenty-one members were present. Plans were made for the Doctors' Day party to be held on April 8th.

The visit of the State President and President-Elect on March 21st and the luncheon at that time were announced.

Committee reports were given. Mrs. John R. Hamilton gave the treasurer's report which included contributions to various funds, including Crippled Children.

Catherine R. Trower
(Mrs. E. Holland)

Northern Neck.

The fall meeting of the Woman's Auxiliary to the Northern Neck Medical Association was held at Tide's Inn, Irvington, on October 27th. The president, Mrs. M. B. Lamberth, Jr., presided. The program topic was Safety on the Farm and in the Home.

Editorial . . .

The Amidon Plan

IF YOU TEACH CHILDREN directly and in a highly organized way, they will learn better and faster. The most important job of the schools is to teach for intelligent behavior. To do this the curriculum is organized by basic subject fields. It is selective, because only the most essential skills and knowledges can adequately be taught in the school day. It is specific, so that teachers, pupils, and citizens will be informed as to what is to be taught. The curriculum is demanding at every stage of pupil development. It should stretch the mind, create new interests, and ennoble aspiration.

The curriculum is built on the premise that the main purpose of organized education is to cultivate the basic subjects as the building blocks of intelligent behavior.

Reading: This is silent reading for knowledge, ideas, inspiration, and recreation. This is also for the kind of oral communication that is achieved by reading aloud to others. It includes the memorization of selected poetry.

Pupils study words, their characteristics, the way they work together to produce meaning as the main instrumentality for learning. Reading instruction begins with study of the alphabet, phonics, and syllabication. The purpose of instruction in reading is to know the word, and learn how to know new words independently. This method combines seeing and sounding.

Instruction in the techniques of reading includes directed teaching in interpretation; identification of key words, topic sentences, supportive detail, summarizing sentences; use of paragraph headings, tables of content, summaries; reading practice in maps, charts, tables.

Writing: Pupils are expected to write extensively for a variety of purposes. This includes recreative writing as well as the writing of reports, letters, etc. Composition improves and refines thinking, and becomes a means of self-expression, thus contributing to self-realization.

Much written expression is required from the earliest grades. While accuracy and facility of expression are desired, the main purpose is to train in the logic of thought.

Spelling: This is scheduled for regular lessons, in addition to instruction incidental to writing.

Grammar: This is scheduled formally at the fourth grade. This includes the parts of speech and the various grammatical forms most commonly needed for clarity of thought and accuracy of expression and interpretation.

Formal study of grammar, with simple diagramming, begins in the fourth grade. The purpose is to teach that sentences follow recognizable structure patterns to convey meaning. Improvement in usage is sought in speech and writing in all grades and subjects by means of direct instruction for this purpose. Drills are used when the center of attention is on grammar and usage.

Mathematics: Valued as a means of developing mental discipline as well as for its own utility, this subject is regularly taught and incidentally used as a means of interpreting, evaluating and describing events. Many concepts in algebra and geometry are consciously taught in the primary grades.

United States History: As a scheduled subject, United States History is taught in chronological order in the fifth grade, and in relation to special events in other grades. The purpose is to understand in depth the significance of the present and to develop appreciation of the privileges and responsibilities of citizenship in a free society.

Geography: The study of place geography is scheduled systematically first at the fourth grade, with the United States as the beginning point. World Geography with political and economic phases is scheduled for the sixth grade. Incidental instruction occurs throughout the elementary grades, with maps and globes to be available at all times.

Health and Physical Education: On definite schedule, these subjects have special and identifiable values. Free play is neither physical education nor health education. Directed experiences to develop the body are described and provided.

Method of Teaching: The teacher teaches what is to be learned. The pupil studies, practices, and knows what is to be learned. The pupil is tested on what he has learned. The teacher reteaches as needed.

Interest and motivation are used to inspire learning. They do not, however, control the teaching processes. They are as often the product of successful teaching as they are the means of it. Teaching engages the attention of the whole class as often as possible. Small groups are used chiefly to meet special individual needs.

Connections between subject and experience, and subject and subject are shown by the teacher. For example, the study of a poem may require word analysis, or some elements of history, or science, or geography. Such

connections are not left to chance discovery by the pupils, but are introduced by skillful teaching or are directly pointed out by the teacher.

Class Management: Seating is orderly. Movement in the class is according to predetermined rules. Self-directed pupil activity is not acceptable unless prepared for and under adult control. Loose, disjointed pupil activity is questionable as a part of any school-supervised program in the classroom, corridor, assembly room, lunchroom, or playground.

The Ultimate Purpose: The school uses every available resource to see to it that each child has some one who cares about what happens to him in school and out of school; knows the meaning of success and failure, the happiness of strenuous effort applied to difficult but generally manageable tasks, and the respect which he can win for himself by his own effort.

The desired end product is not a spoon-fed, protected individual but a self-disciplined personality interested in continuing his education, capable of intelligent decision-making in every aspect of living, and, most importantly, governed in all actions by the highest moral principles.

All this makes good sense to you and me, doesn't it? It is difficult, indeed, to conceive of how public school education could have ever been anything else. The truth is, however, that each of the foregoing sentences has been lifted bodily (with some change of tense, and deletion of other material for the sake of brevity) from a publication issued by and obtainable from the Office of the Superintendent of Schools of the District of Columbia, entitled THE AMIDON PLAN. As its subtitle indicates, it is a summary of philosophical and practical suggestions for the organization of the Amidon School, an experimental elementary school in the District of Columbia that will emphasize a return to fundamentals. This plan, which makes simple common sense to a liberally educated adult, allegedly has been met with an attitude ranging from "wait and see" to frank rejection in certain quarters of professional education. The very fact that such a plan ever had a raison d'être *should concern us, educated adults and parents alike. Superintendent Hansen, the author of the Plan, deserves the unsparing support of us all.*

Christian V. Cimmino, M.D.
Member, National Education Association.

Society Activities . . . .

Fredericksburg Medical Society.

This society re-elected its officers for 1961 as follows: President, Dr. Lloyd F. Moss; vice-president, Dr. William D. Liddle; and secretary-treasurer, Dr. James E. Grimes.

Northampton County Medical Society.

At the meeting of this Society on December 20th, the following officers for 1961 were elected: Dr. William S. Burton, president; Dr. W. Carey Henderson, vice-president; Dr. Cecil Sinclair, secretary; Dr. John R. Hamilton, Member of Board of Censors.

Arlington County Medical Society

Officers for this Society for 1961 are: President, Dr. Michael A. Puzak; president-elect, Dr. J. R. B. Hutchinson; vice-president, Dr. Howard O. Mott; secretary, Dr. Robert B. Neu; treasurer, Dr. Joseph O. Romness; and member-at-large, Dr. Robert L. Norment.

The Mid-Tidewater Medical Society

Held its quarterly meeting at West Point on January 24th. Dr. Sterling Ransone, Mathews, was installed as president.

Plans for a Poison Center adapted to the needs of the large rural territory were discussed and a permanent committee was appointed to study the matter and bring in further recommendations.

The scientific program consisted of discussion by Dr. W. T. Thompson, Professor of Medicine, and Dr. Robert Senescu, Professor of Psychiatry, Medical College of Virginia, on the importance of genetics and environment on functional diseases of the mind and body.

Dr. Guy Horsley, President of The Medical Society of Virginia, discussed the importance of physicians expressing their views on legislative programs concerning medicine before the Congress.

The next meeting of the Society will be held at Gloucester on April 25th.

Williamsburg-James City Medical Society.

Dr. R. E. DeBord has been installed as president of this Society, succeeding Dr. Herman Bailey, Yorktown. Other officers are Dr. B. I. Bell, Jr., vice-president; Dr. G. J. Oliver, Jr., secretary; Dr. F. L. Fernandez, treasurer.

New committee chairmen are: Dr. Allen W. Lane, draft committee; Dr. George J. Chohany, entertainment; Dr. John Fletcher, grievance; Dr. G. H. Van Driem, nominations; Dr. Oliver, hospital; Dr. Kurt Schmidt, membership; Dr. Bailey, program; and Dr. U. G. Bradenham, community council.

Richmond Academy of General Practice.

Dr. William C. Gill, Jr., was named president-elect of the Academy at its meeting in December. Dr. George G. Ritchie, Jr., will succeed Dr. Wayne C. Campbell to the presidency. Other officers are Dr. Fleming W. Gill, vice president; Dr. Leroy S. McDaniel, secretary; Dr. Irvin Rifkin, treasurer; and Drs. Levi W. Hulley and Frederick H. Savage, directors.

Virginia Radiological Society.

At the annual meeting held on October 11th, Dr. John Mapp, Nassawadox, was elected president and Dr. Powell Dillard, Lynchburg, secretary.

Virginia Society for Pathology.

At the recent meeting of this Society, Dr. Geoffrey T. Mann, Richmond, was elected president; Dr. James Gale, Roanoke, president-elect; and Dr. George J. Carroll, Suffolk, secretary-treasurer.

Virginia Obstetrical and Gynecological Society.

In the report of the annual meeting of

this Society in the December issue of the Monthly, there was an error in the listing of officers. The following are the correct ones: President, Dr. Harrison Picot, Alexandria; president-elect, Dr. William N. Thornton, Charlottesville; vice-president, Dr. A. Tyree Finch, Farmville; and secretary-treasurer, Dr. Brock D. Jones, Jr., Norfolk.

Virginia Society of Ophthalmology and Otolaryngology.

In the January issue of the Monthly, it was announced that the annual meeting of this Society would be held at the Golden Triangle, Norfolk, May 3-5. It should have been stated that this is the 1962 meeting of the Society. The 1961 Clinical Session and Annual Meeting will be held at the Hotel Roanoke, Roanoke, May 4, 5 and 6.

Psychosomatic Medicine.

The annual meeting of the American Society of Psychosomatic Dentistry and Medicine will be held at the Shoreham Hotel, Washington, D. C., March 10-12. The main theme of the program will be Anxiety, its recognition and handling in the clinical setting of general practice. Round table discussions will be held on the Utilization of Hypnosis in the Various Specialties of General Practice.

All dentists and physicians are invited to attend. For a detailed program, contact Dr. Jesse Caden, 5213 Connecticut Avenue, N. W., Washington 15, D. C.

Medical and Chirurgical Faculty.

The Annual Meeting of the Medical and Chirurgical Faculty of the State of Maryland will be held April 26-28.

On the 26th there will be a panel discussion on Viral Infections of the Respiratory Tract, with Dr. W. S. Jordan, Jr., University of Virginia; Dr. R. H. Parrott, Children's Hospital of the District of Columbia; and Dr. H. M. Rose, Columbia University, as participants. A medicolegal symposium on Malpractice Actions Against Doctors will be held that evening.

On Thursday, there will be a panel discussion on Management of Congestive Heart Failure and a round table luncheon. Dr. Perry S. MacNeal, Pennsylvania Hospital, will speak on Stay Alive, and Dr. Merrill A. Bender, Roswell Memorial Institute, Buffalo, on Use of Radioisotopes in Medical Diagnosis.

On Friday, Dr. Allen C. Barnes, The Johns Hopkins University, will speak on Endocrine Therapy for Gynecologic Disorders, and there will be a panel discussion on The Public Image of Medicine.

All physicians, residents, medical students are invited to attend these sessions. A copy of the detailed program may be obtained from the Faculty at 1211 Cathedral Street, Baltimore 1, Maryland.

International Academy of Proctology.

The Thirteenth Annual Convention of the Academy will be held in Chicago, April 8-13, 1961.

An unusual seminar on practical technics for office and hospital is being planned. There will be special emphasis on anal and rectal panel presentations. Eminent speakers from all parts of the country and abroad will present interesting papers and motion picture demonstrations of their techniques.

All physicians and their wives are cordially invited to attend these sessions and may obtain a full program from the International Academy of Proctology, 147-41 Sanford Avenue, Flushing 55, New York.

American College of Gastroenterology.

The Southern Regional meeting of the College will be held in Houston, Texas, March 19th.

Members of the medical profession are cordially invited to attend and may obtain a program from the Secretary, 33 West 60th Street, New York 23.

News Notes . . . .

New Members

Since the list published in the February issue, the following new members have been received into The Medical Society of Virginia:

Nicholas Badin, M.D., Norfolk
Jose San Juan Benedicto, M.D., Falls Church
George Nick Cavros, M.D., Norfolk
Donald Edwin Chambers, M.D., Norfolk
Harold Lee Chandler, Jr., M.D., Norfolk
Charles Barrie Cook, M.D., Norfolk
Donald Wesley Drew, M.D., Norfolk
James Henry Dwyer, M.D., Richmond
Charles William Foulke, M.D., Arlington
Gunter Ernst Hahn, M.D., Manassas
Robert L. Hargrave, M.D., Vienna
William Blaine Kingree, M.D., Woodbridge
John Alfriend Mapp, M.D., Virginia Beach
Wylie Charles Mason, M.D., Barboursville
Francis Michael Mastrota, M.D., Falls Church
Jack Burean McGolrick, M.D., Kecoughtan
Albert Moniz, M.D., Falls Church
John Oliver Nestor, M.D., Arlington
Sergio Vincent Proserpi, M.D., Annandale
Robert Hammond Reed, M.D., Woodbridge
Frederick Daniel Robinson, M.D., Hampton
Lilburn Trigg Talley, M.D., Richmond

The Virginia Board of Medical Examiners

Sent its president, secretary and one other member to the meeting of the Federated Boards of Medical Examiners at the Palmer House in Chicago, February 4-7. This meeting was well attended by Board members from every state and matters of importance came up for discussion.

The Board of Medical Examiners appeals to the doctors throughout the State for help in furnishing information as to deaths of doctors in the State. All of these do not get published in the Virginia Medical Monthly. The Board, not knowing that certain doctors are deceased, frequently have to subject the doctor's widow to repeated requests for the doctor's annual registration. It would be a great help to the Board if each medical society in the State would appoint a member whose duty would be to inform the Board of the death of any doctor in his community.

Clinical Lectureship Series.

The first of the Norfolk County Medical Society Clinical Lectureship Series were held on January 17th and February 21st. The following are future dates and subjects:

March 21st—Dr. Robert W. Buxton, Professor of Surgery, University of Maryland, School of Medicine—Nutrition and Heart Disease.

April 18th—Dr. A. C. Corcoran, Director Department of Clinical Investigation, St. Vincent Charity Hospital, Cleveland, Ohio —Hypertension.

May 16th—Dr. Robert A. Senescu, Professor of Psychiatry, Medical College of Virginia—Guilt.

These lectures are held at 8:00 P.M. at the Norfolk Public Health Auditorium. Teaching rounds are held at 8:00 A.M. and 4:00 P.M., alternating between the Norfolk General and DePaul Hospitals. Each lecture is approved Category I, 1 hour credit, Virginia Academy of General Practice.

Hospital Staff Appointments.

The medical staff of Memorial Hospital, Lynchburg, elected Dr. W. D. Richards, Monroe, president of its executive committee. Other new officers are Dr. Clarence

Keefer, vice-president, and Dr. Kenneth Cooper, secretary.

Dr. Edward C. Paarfus, Stuart, has been elected chief of staff of the Stokes-Reynolds Memorial Hospital at Danbury, N. C.

The Leigh Memorial Hospital, Norfolk, elected Dr. G. H. M. Rector as 1961 president, succeeding Dr. John A. Cocke. Other officers are Dr. R. J. Faulconer, vice-president, and Dr. R. W. Alfriend, secretary-treasurer. Chiefs of the various hospital services are: Dr. Charles W. Anderson, medicine; Dr. J. W. Creef, general practice; Dr. William B. Wiley, surgery; and Dr. M. H. Bland, obstetrics and gynecology.

Dr. John E. Roberts is the new president of the Alexandria Hospital Medical Staff, succeeding Dr. George Speck. Dr. James D. Mills is the new president-elect and Dr. Simon Paluch secretary-treasurer. Drs. John O'Conner and John Zearfoos were named to the medical staff's executive committee for two years, and Dr. Adrian J. Delaney was named to the hospital's Joint Conference Committee for a three-year term.

The Bureau of Narcotics

Has requested that the following information be passed on to all practicing physicians:

The drug Dihydrocod*einone* should not be confused with Dihydrocod*eine,* certain preparations of which may still be sold as exempts under the new regulations. Dihydrocod*einone,* otherwise known as Hydrocodone, has been distributed under the trade names Dicodid, Hycodan, Mercodinone, etc. Preparations containing any of these are no longer exempt. Dihydrocodeine, otherwise known as Drocode, and sold under the names Didrate, Rapacodin, Paracodin, Parzone, etc., is an entirely different drug.

Dr. Edward E. Haddock,

Richmond, has been elected illustrious potentate of Acca Temple, Ancient Arabic Order of the Nobles of the Mystic Shrine. The retiring potentate is Dr. William C. Brann, South Boston.

Waynesboro Hospital Staff.

Dr. C. M. Caulkins has been elected president of the Medical Staff of the Waynesboro Community Hospital. Other new staff officers are Dr. J. Powell Anderson, vice-president; Dr. Thomas L. Gorsuch, secretary; Dr. David J. Crawford, treasurer; and Drs. B. K. Weems and Beverly Loesch, members of the Executive Committee.

Fredericksburg Hospital Staff.

Members of the medical staff of the Mary Washington Hospital recently elected are: President, Dr. Joseph C. MacKnight; vice-president, Dr. T. Stacy Lloyd, Jr.; and secretary-treasurer, Dr. William D. Liddle.

Dr. Robert M. Campbell

Has been elected chairman of the Portsmouth Chapter of the American Red Cross.

Annual Clinical Conference.

The Louise Obici Memorial Hospital, Suffolk, will hold its Annual Clinical Conference on March 8th. The subject for discussion is Endocrinology, and the following speakers form the panel: Dr. H. St. George Tucker, Medical College of Virginia—Disturbances in Adrenocortical Function; Dr. John Canary, Georgetown University—Parathyroid; Dr. Henry Diamond, Memorial Hospital for Cancer, New York—Hormonal Therapy of Cancer; Dr. Sam Asper, Johns Hopkins University—Recent Advancements in the Treatment of Hyperthyroidism; and Dr. William Barfield, Medical College of Georgia—Clinical Application of the New Progestins. The dinner speaker will be Dr. Thomas Peery, George Washington University, his subject being Training the Doctors of Tomorrow.

Westbrook Sanatorium

The Board of Directors of Westbrook Sanatorium, Richmond, announces the retirement, effective January 1, 1961, of Dr. Paul V. Anderson. Dr. Rex Blankinship succeeds Dr. Anderson as president of the sanatorium.

Dr. John R. Saunders is medical director, succeeding Dr. Rex Blankinship; and Dr. T. F. Coates, Jr., is assistant medical director. Dr. J. K. Hall, Jr., was elected to the Board of Directors.

The Board of Directors and staff of Westbrook Sanatorium will soon issue invitations for the celebration of the fiftieth anniversary of the founding of Westbrook Sanatorium in 1911. As a part of the celebration the sanatorium will be host to the Neuropsychiatric Society of Virginia, a District Branch of the American Psychiatric Association, on April 15 at 2 p.m. The guest speakers will be Dr. Robert H. Felix, president of the American Psychiatric Association; Dr. Francis J. Braceland, psychiatrist in chief, the Institute of Living, Hartford, Connecticut, and past president of the American Psychiatric Association; and Dr. Mathew Ross, medical director of the American Psychiatric Association. Also appearing on the program will be Dr. Guy W. Horsley, president of The Medical Society of Virginia, and Dr. Edwin L. Kendig, Jr., president of the Richmond Academy of Medicine.

Norfolk Medical Tower.

The $2.8 million cooperatively owned Norfolk Medical Tower was formally opened on January 14th. The completed building is occupied by 94 physicians, surgeons and dentists. Under the same roof are also located clinical and pathological laboratories, complete radiological facilities, a pharmacy, optician, orthoptist, telephone answering service, secretarial service, restaurant, bank and other related services for the convenience of visitors. The comprehensive medical research libraries of the Norfolk County Medical Society and the Virginia Tidewater Dental Society and their offices have space on the 10th floor.

The omnidirectional steel and glass tower has a square floor plan with a central core for elevators and mechanical services. There are three high-speed self-service elevators, with a capacity of 1900 persons per hour. The air-conditioning system has 106 individual thermostat controls in the interior offices and in addition is equipped with the newest-type "Solar Sensor" zone controls which monitor the position and temperature of the sun on the faces of the building and can cool or heat each face independently as required. The heating plant is located on the roof, thus eliminating the need for a basement.

Postgraduate Day Program.

The Roanoke Memorial Hospital Twelfth Annual Postgraduate Day Program will be held on March 16th. At the morning session, there will be a Clinical Conference on Peripheral Vascular Disease with Case Presentations. In the afternoon, there will be a Clinical Conference with Dr. Eugene Stead, Durham, N. C., as clinician, and Dr. Benjamin Castleman, Boston, pathologist. Dr. Stead will discuss Genetics in Clinical Medicine and Dr. Castleman Polyps of the Stomach and Intestines: Evidence Against Malignant Transformation. Dr. Robert Linton, Boston, will discuss Surgical Reconstruction of the Arteries. In the evening, there will be a social hour and dinner and an address by Dr. Ivan Bennett, Indianapolis, his subject being Mind Drugs: Whence and Whither.

Evening Medical Lecture Series.

The following are future programs for the Evening Medical Lecture Series of the University of Virginia Medical School:

March 20th—Dr. Arthur Purdy Stout, College of Physicians and Surgeons, Columbia University, New York—The Effect of Cigarette Smoking on the Bronchial Mucosa.

March 27th—Dr. Joseph Larner, School of Medicine, Western Reserve University, Chicago—Glycogen Metabolism and the Glycogen Storage Diseases.

April 17th—Dr. Walter B. Shelley, School of Medicine, University of Pennsylvania—

Experimental Studies on the Nature of Itching. (D. C. Smith Memorial Lectureship).

April 24th—Dr. Alfred R. Shands, Jr., Medical Director, Alfred I. DuPont Institute of the Nemours Foundation, Wilmington—Congenital Malformations of the Musculo-Skeletal System, Their Incidence and Treatment. (Staige D. Blackford Memorial Lectureship).

All lectures are held at 8:00 P.M. in the medical school auditorium.

College to Assist Cuban Members.

At the meeting of the Board of Regents of the American College of Chest Physicians held recently, a resolution was adopted to establish a relief fund for Cuban members of the College who have been exiled temporarily from their country. The Board voted to contribute $5,000 to launch the fund and contributions are being solicited from College members and others who are interested.

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Obituaries . . . .

Dr. Holcombe McGavock Robertson,

Former medical director of the United States Public Health Service, died at his home in Warrenton on January 15th. He was eighty-six years of age and received his medical degree from the University of Virginia in 1900. Dr. Robertson retired in 1938 after serving the Public Health Service for thirty-six years. He was assigned to the Virginia Department of Health in 1922 to 1924 to assist in establishing new health programs for the State.

Dr. Robertson had been a member of The Medical Society of Virginia for sixty years.

Dr. Dewey Lynwood Fleshman,

Pence Springs, West Virginia, died January 1st, at the age of sixty-one. He received his medical degree from the University of Maryland in 1922. Dr. Fleshman practiced in Bassett for about thirty years, before retiring to his farm at Pence Springs.

Dr. Fleshman had been a member of The Medical Society of Virginia for thirty years.

His wife and a daughter survive him.

Dr. George Baskerville Zehmer,

Retired dean of the extension division of the University of Virginia, died January 13th. He had been attending a meeting of the White House Conference on Aging in Washington.

Dr. Zehmer had worked closely with The Medical Society of Virginia in its post-graduate medical education programs held some years ago and was always available to give advice and help in any work of the Society.

Dr. Williams.

At a special meeting of the Petersburg Medical Faculty, which was held on January 5, 1961, to express tribute to the memory of their late colleague, Dr. John M. Williams, the following resolutions were read and unanimously adopted:

God in His infinite wisdom has removed from our midst a true friend and loyal colleague, who faithfully served in this community for more than 55 years.

Dr. John M. Williams was an outstanding doctor of the old school and was probably the first Petersburg physician who practiced internal medicine in the way in which we know it today. He was a man of exceptional ability, charming personality, and a loyal member of the Petersburg Medical Faculty. He was

an active member of the Fourth District Medical Siciety, The Medical Society of Virginia, and the American Medical Association.

Therefore be it resolved that in the death of Dr. John M. Williams the profession in Petersburg has lost a valued associate and the community an esteemed citizen and physician.

Be it further resolved that these resolutions be spread on the minutes of the Faculty and that copies be sent to the family and to the Virginia Medical Monthly for publication.

Dr. Spessard.

With deep regret we record the passing of our esteemed member and beloved friend, Dr. Thomas Nathaniel Spessard, who died on December 14, 1960, at the age of fifty-seven. He was born in Newcastle, received his early schooling in Richmond, and attended Hampden-Sydney College. He graduated in 1927 from the Medical College of Virginia.

After a general internship he entered general practice and then began the specialty of neurology and psychiatry through study at the Neurological Institute in New York from 1929 to 1931. From 1931-1938, he practiced in Roanoke and at the end of this time came to Norfolk, where for a time he shared offices with the late Dr. Frank H. Redwood in the practice of neurology and psychiatry. During the years 1940 to 1946, he served in the armed forces and became a captain in the Medical Corps of the U.S. Naval Reserve. He then returned to Norfolk and resumed private practice in which he remained active until his final illness.

In July 1931 he married Catherine Mary Hagar. He is survived by his widow, two daughters, a brother, and seven grandchildren. He was a Fellow of the American College of Physicians and the Southern Psychiatric Association. He was a member of the American Medical Association, American Psychiatric Association, The Medical Society of Virginia, The Neuropsychiatric Society of Virginia, the Seaboard Medical Association, the Norfolk County Medical Society, and other organizations. He was a member of the First Presbyterian Church of Norfolk. Dr. Spessard was an able physician, respected by his fellows and loved by his friends and patients.

Therefore, be it resolved by the Norfolk County Medical Society, on this third day of January 1961, that we express our sorrow at the loss of our devoted friend and colleague and our sincere and heartfelt sympathy to his family. *And*, that this memorial be made a part of the permanent records of this Society and that a copy be sent to his family and to The Medical Society of Virginia for publication.

Walter P. Adams, M.D.
Frederick G. Woodson, M.D.,
Committee.

Dr. Langston.

The death of Dr. Henry J. Langston of Danville on October 26, 1960, at the age of 72 years, marked the end of his thirty-eight year career as a skillful and dedicated physician. His passing is mourned by his colleagues in the Danville-Pittsylvania Academy of Medicine and by a host of appreciative patients.

Dr. Langston was born in Winterville, Pitt County, North Carolina. He was a graduate of Wake Forest College; he received his medical degree from the Medical College of Virginia in 1921. He was a member of the American Medical Association, the Tri-State Medical Society, the American Medical Editors and Authors Association, the Piedmont Medical Society, The Medical Society of Virginia, the Southern Medical Association, and the World Medical Society. Dr. Langston was a member of the First Baptist Church and the Danville Lion's Club. He is survived by three children, C. E. Langston of New York City, Mrs. Carolyn L. Stevens of Greensboro, and Henry J. Langston, Jr., of Danville.

Dr. Langston's life was characterized by an intense sincerity, a friendly and generous disposition, a tireless interest in his patients, and loyal devotion to his community and his profession.

Therefore, be it resolved that this expression of our respect be recorded in the minutes of the Danville-Pittsylvania Academy of Medicine and a copy of this resolution be sent to his family and to the Virginia Medical Monthly.

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Take, for instance, the woman in our picture, suffering from a really severe tension headache. Aspirin she has tried, of course; but suppose she's called you and you prescribed Dornwal. What would you expect?

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Supplied: 200 mg. yellow scored tablets, and 100 mg. pink tablets, each in bottles of 100 and 500.

P.S. For the "Genericist", Dornwal is amphenidone

No absolute contraindications to the use of Dornwal are known. There have been no reports or evidence of habituation, addiction or drug tolerance in animal or clinical studies. Dornwal is relatively free from untoward effects when administered at recommended dosages.

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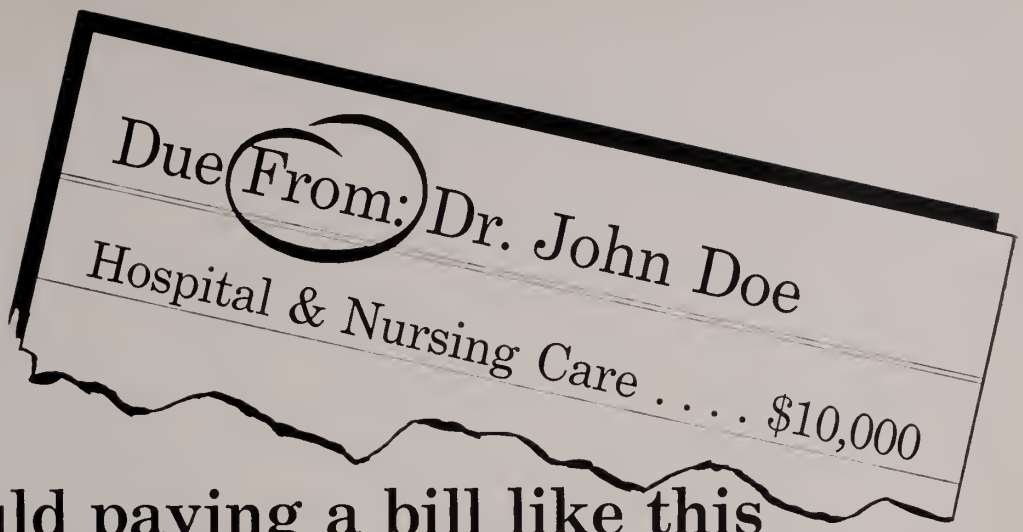

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• What would paying a bill like this do to your personal finances?

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Each of the babies pictured on this page was borne by a mother with a *documented* previous history of true habitual abortion, who was treated with DELALUTIN during the pregnancy leading to this birth

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SQUIBB HYDROXYPROGESTERONE CAPROATE

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Lifts depression...as it calms anxiety!

Smooth, balanced action lifts depression as it calms anxiety...rapidly and safely

Balances the mood — no "seesaw" effect of amphetamine-barbiturates and energizers. While amphetamines and energizers may stimulate the patient — *they often aggravate anxiety and tension.*

And although amphetamine-barbiturate combinations may counteract excessive stimulation — *they often deepen depression.*

In contrast to such "seesaw" effects, Deprol's smooth, *balanced* action lifts depression as it calms anxiety — both at the same time.

Acts swiftly — the patient often feels better, sleeps better, within a few days. Unlike the delayed action of most other antidepressant drugs, which may take two to six weeks to bring results, Deprol relieves the patient quickly —often within a few days. Thus, the expense to the patient of long-term drug therapy can be avoided.

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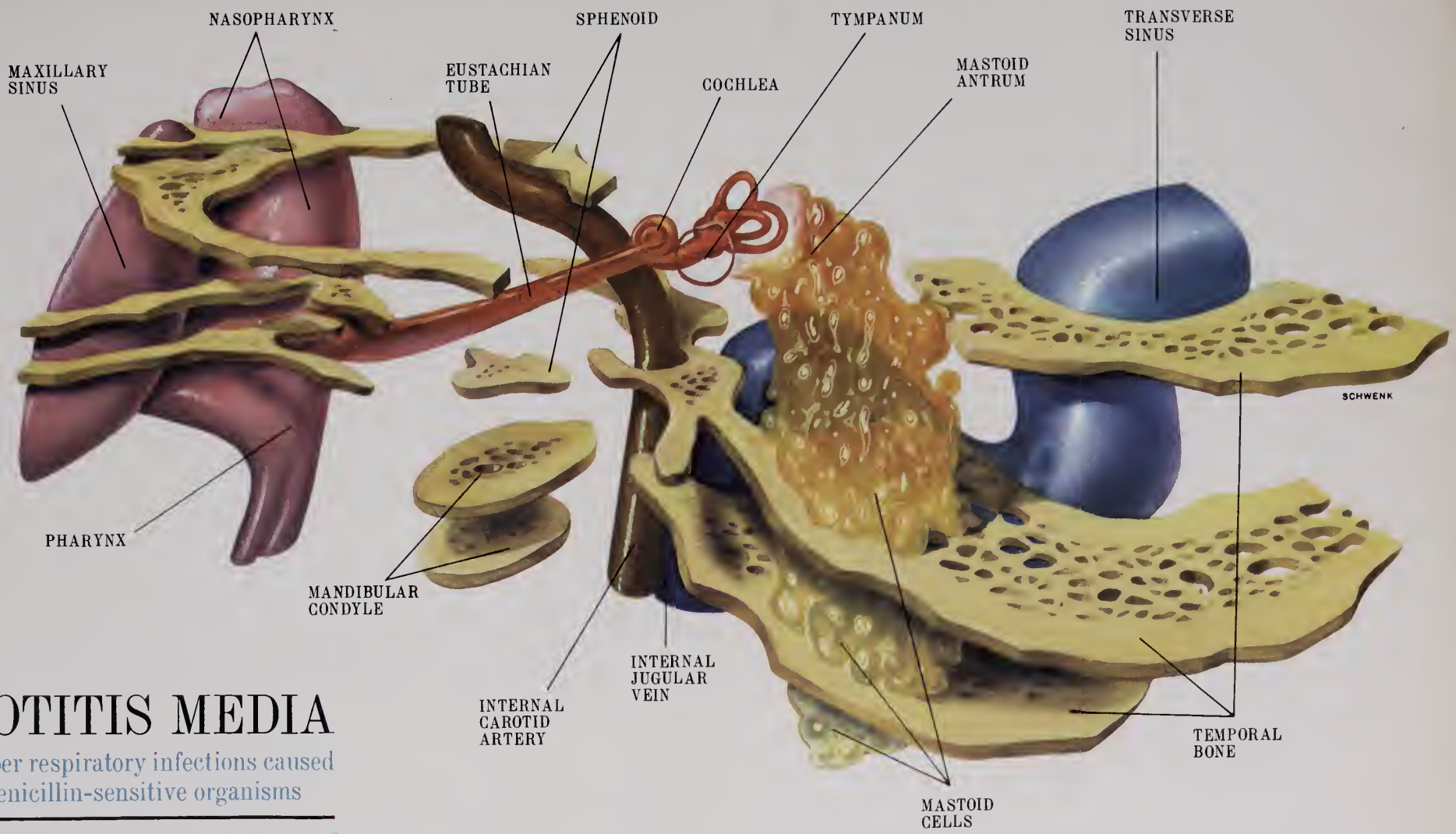

This diagram represents the lateral aspect of the left middle ear and related structures. The bony landmarks are shown in serial sections.

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and upper respiratory infections caused by penicillin-sensitive organisms

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(phenoxyethyl penicillin potassium)

for your next case in which penicillin is indicated . . .

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Effective *in vitro* antibacterial activity against penicillin-sensitive organisms*

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Corynebacterium xerosis	0.03
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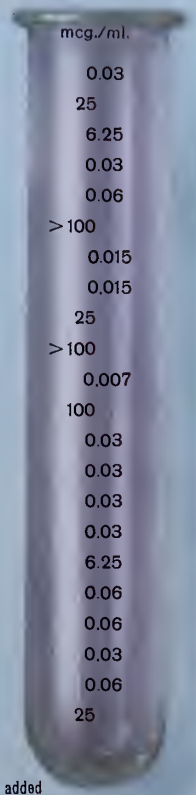
Escherichia coli ATCC 8739	>100
Gaffkya tetragena	0.015
Micrococcus flavus	0.015
Salmonella paratyphi A	25
Salmonella typhosa	>100
Sarcina lutea ATCC 10054	0.007
Shigella sonnei	100
Staphylococcus aureus 209P	0.03
Staphylococcus aureus var. Smith	0.03
Streptococcus agalactiae ATCC 1077	0.03
Streptococcus dysgalactiae ATCC 9926	0.03
Streptococcus faecalis PCI 1305	6.25
*Streptococcus pyogenes 203	0.06
*Streptococcus pyogenes Digonnet	0.06
Streptococcus pyogenes 2320	0.03
Streptococcus pyogenes 23586	0.06
Vibrio comma	25



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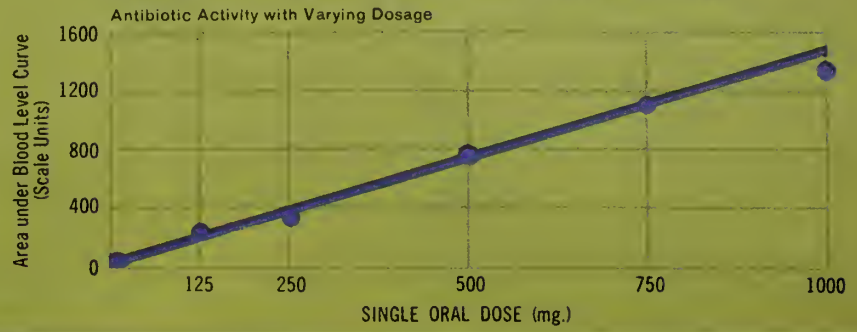
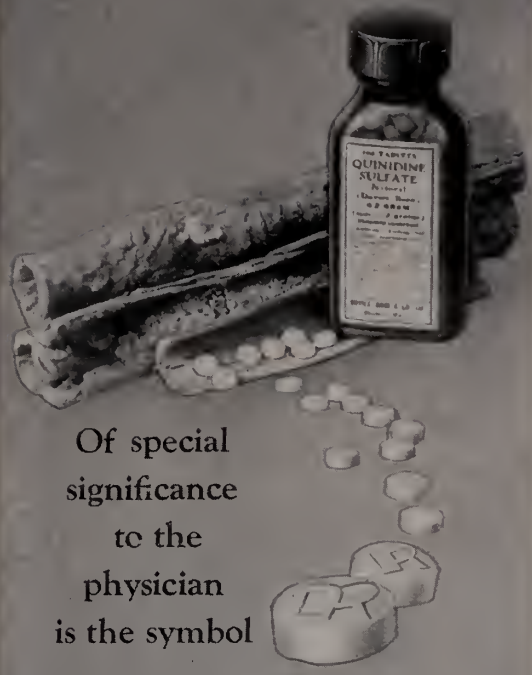


*As is true with all antibiotics, clinical response does not always correlate exactly with *in vitro* bacterial sensitivity reports or laboratory blood level findings. However, these are useful guides.

Dosage: 125 mg. or 250 mg. 3 times a day, depending on severity of the infection, and on age and weight of the patient. Larger dosage (e.g., 500 mg. t.i.d.) may be used for more severe infections. Although maximum absorption is obtained in the fasting patient, clinically adequate blood levels are almost always obtained when SYNCILLIN is administered with meals. Treatment should be continued until physician is confident infection has been overcome. ☐ Beta-hemolytic streptococcal infections should be treated for at least 10 days to help prevent the development of rheumatic fever. Even more prolonged therapy may be required for certain staphylococcal infections. ☐ Complete information on indications and precautions is included in the official circular accompanying each package.



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P.S. For the "Genericist", Dornwal is amphenidone

No absolute contraindications to the use of Dornwal are known. There have been no reports or evidence of habituation, addiction or drug tolerance in animal or clinical studies. Dornwal is relatively free from untoward effects when administered at recommended dosages.

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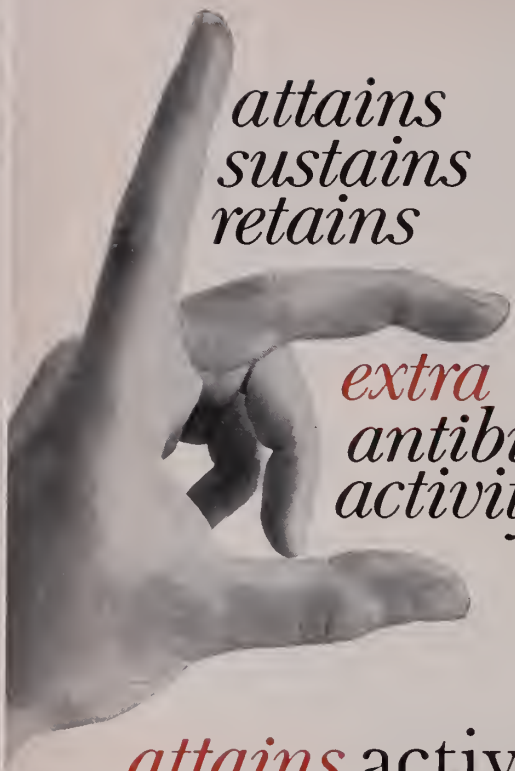

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DECLOMYCIN Demethylchlortetracycline attains — usually within two hours—blood levels more than adequate to suppress susceptible pathogens — on daily dosages substantially lower than those required to elicit antibiotic activity of comparable intensity with other tetracyclines. The average, effective, adult daily dose of other tetracyclines is 1 Gm. With DECLOMYCIN, it is only 600 mg.

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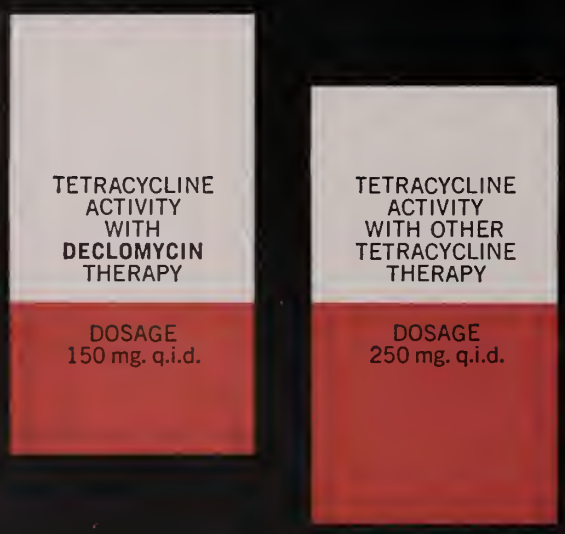

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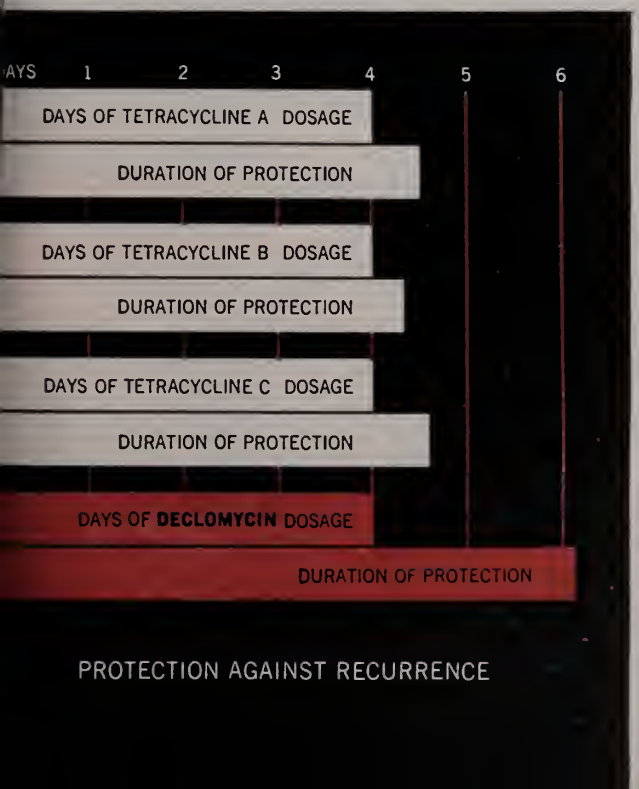

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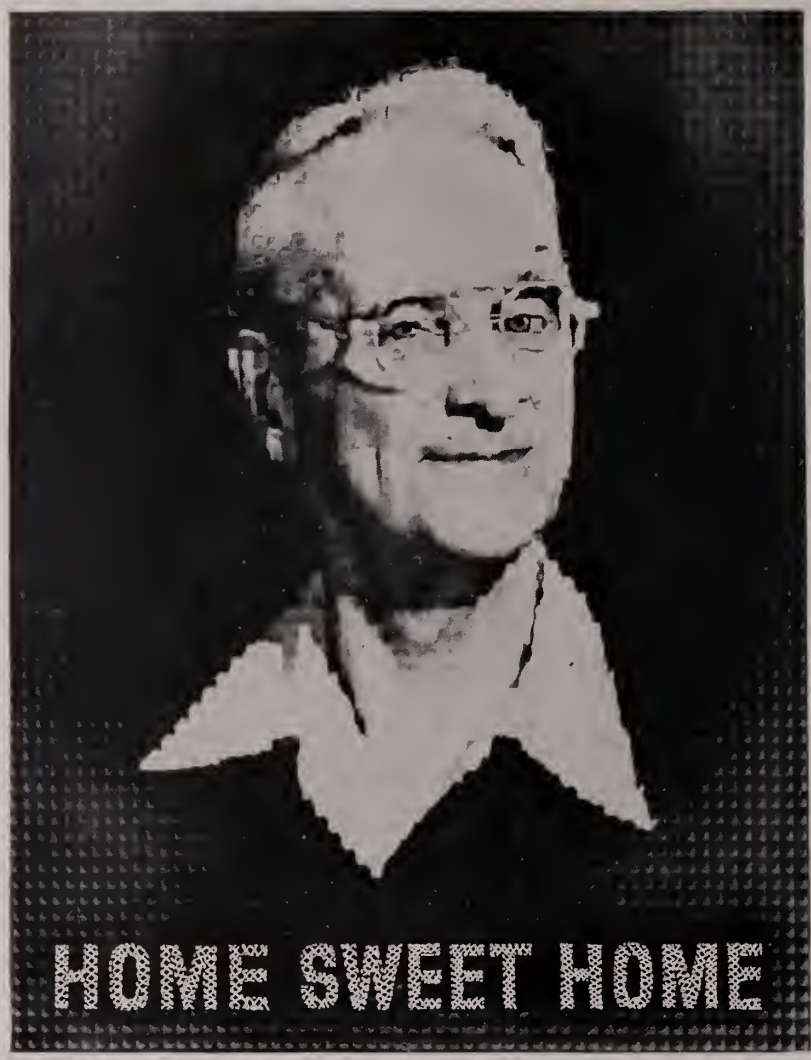

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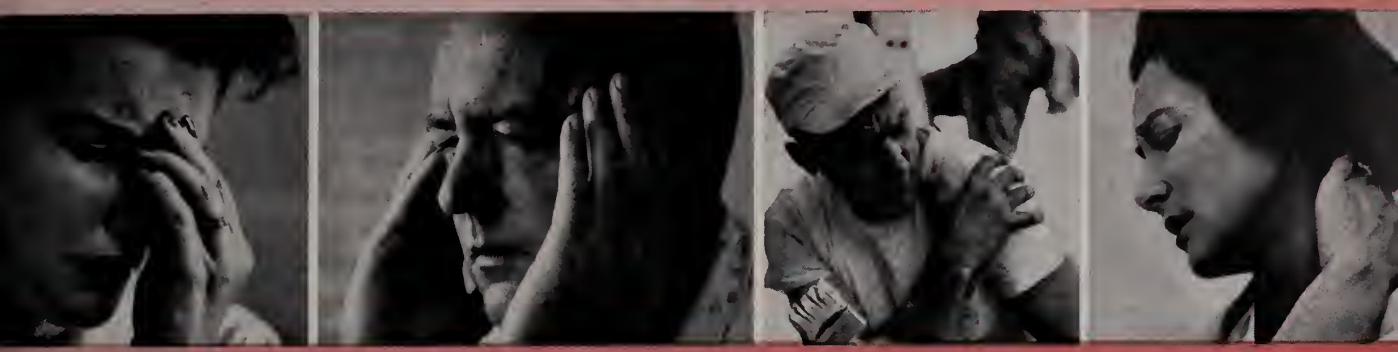

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prompt relief
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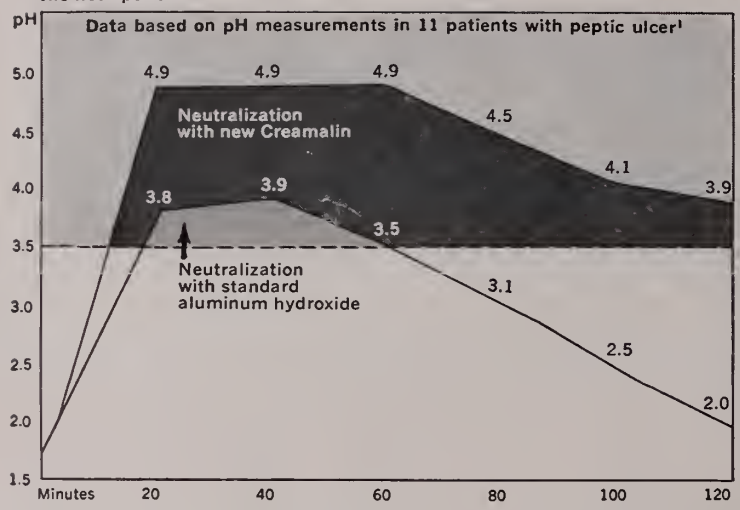
At the site of peptic ulcer

Following determination of basal secretion, intragastric pH was continuously determined by means of frequent readings over a two-hour period.



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1. Data in the files of the Department of Medical Research, Winthrop Laboratories. 2. Hinkel, E. T., Jr.; Fisher, M. P., and Tainter, M. L.: J. Am. Pharm. A. (Scient. Ed.) 48:384, July, 1959.

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distinguished by its
"...very low incidence of
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Patients	200 infants and children, ages 2 months to 14 years
Diagnosis	Perennial allergic rhinitis
Therapy	Dimetane Elixir
Results	in 149, *good* results / in 40, *fair* results
Side Effects	Encountered in *only* 7 patients (in all except one, the side effect was mild drowsiness)

In allergic patients *of all ages,* Dimetane has been shown to work with an effectiveness rate of about 90% and to produce an exceptionally low incidence of side effects. Complete clinical data are available on request to the Medical Department. *Supplied:* DIMETANE Extentabs® (12 mg.), Tablets (4 mg.), Elixir (2 mg./5 cc.), new DIMETANE-TEN Injectable (10 mg./cc.) or new DIMETANE-100 Injectable (100 mg./cc.).

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*MC GOVERN, J. P., MC ELHENNEY, T. R., HALL, T. R., AND BURDON, K.D.: ANNALS OF ALLERGY 17:915, 1959.

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1 simple dosage schedule produces rapid, reliable tranquilization without unpredictable excitation

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meprobamate (Wallace)

Usual dosage: One or two 400 mg. tablets t.i.d.
Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets.
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Supplied: Bottles of 50 apricot-colored, scored tablets.

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PAGE 643

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spasm and hyperchlorhydria with virtual freedom fr
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(Warning: May be habit forming)
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ulcer, gastritis, cholecystitis, and ot
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of antispasmodic plus mild sedative
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Dosage: Usually administered in doses of c
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safety, larger doses may be employ
with safety where indicated. Infants m
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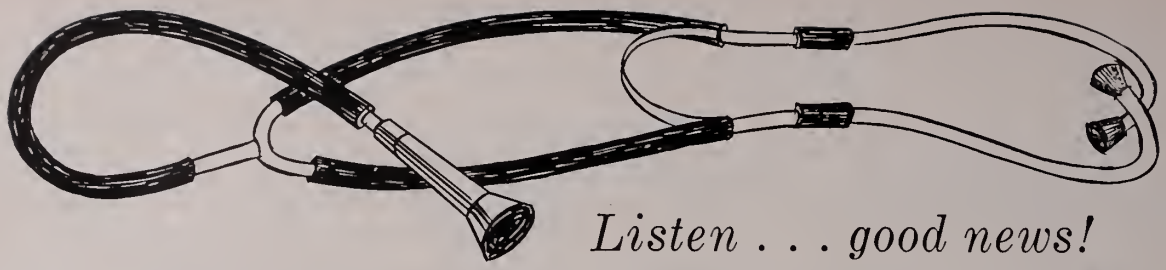

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it may become more
than just a cold...

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TETRACYCLINE PHOSPHATE COMPLEX WITH PHENYLTOLOXAMINE AND APC

Only a single prescription provides:

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- symptomatic relief of aches, pains, fever, coryza and rhinorrhea associated with upper respiratory infections
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*Council on Drugs, J.A.M.A. 165:58 (Sept. 7) 1957.

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*Pomeranze, J.: J. New York M. Coll. *1*:32, 1959.

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1. Macy, I. G.; Kelly, H. J., and Sloan, R. E.; with the Consultation of the Committee on Maternal and Child Feeding of the Food and Nutrition Board, National Research Council: The Composition of Milks, Publication 254, National Academy of Sciences and National Research Council, Revised 1953. 2. Brown, G. W.; Tuholski, J. M.; Sauer, L. W.; Minsk, L. D., and Rosenstern, I.: Evaluation of Prepared Milks in Infant Nutrition; Use of the Latin Square Technique, J. Pediat. 56:391 (Mar.) 1960.

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MEDICAL MONTHLY

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

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APRIL, 1961

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Re: *New* Nonsteroid Chemotherapy of RHEUMATOID ARTHRITIS

Dear Doctor:

The "ideal" drug for rheumatoid arthritis would be "...one that is effective in the majority of those afflicted, and of such low toxicity that it can be given, in an effective dosage, for as many years as may be necessary to control the disease process in any given patient."[1]

The two drugs that currently come closest to the definition of "ideal" are aspirin and Plaquenil®. The outstanding safety of aspirin and its effectiveness in the treatment of persons with rheumatoid arthritis have been firmly established for decades. Recent clinical studies, extending over periods of from one to five years, have demonstrated that Plaquenil inhibits rheumatoid disease in the majority of patients[1] and that it is "...the least toxic of its class..."[2]

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Our PLANOLAR brochure contains a complete report of clinical experience and side effects as well as more detailed information on dosage. May we send you a copy?

Sincerely yours,
WINTHROP LABORATORIES

1. Bagnall, A. W.: Antimalarial compounds in rheumatoid disease, *Canad. M.A.J.* 82:1167, June 4, 1960.
2. Cornbleet, Theodore: Discoid lupus erythematosus treated with Plaquenil, *A.M.A. Arch. Dermat.* 73:572, June, 1956.

*Planolar, trademark

Plaquenil (brand of hydroxychloroquine), trademark reg. U.S. Pat. Off.

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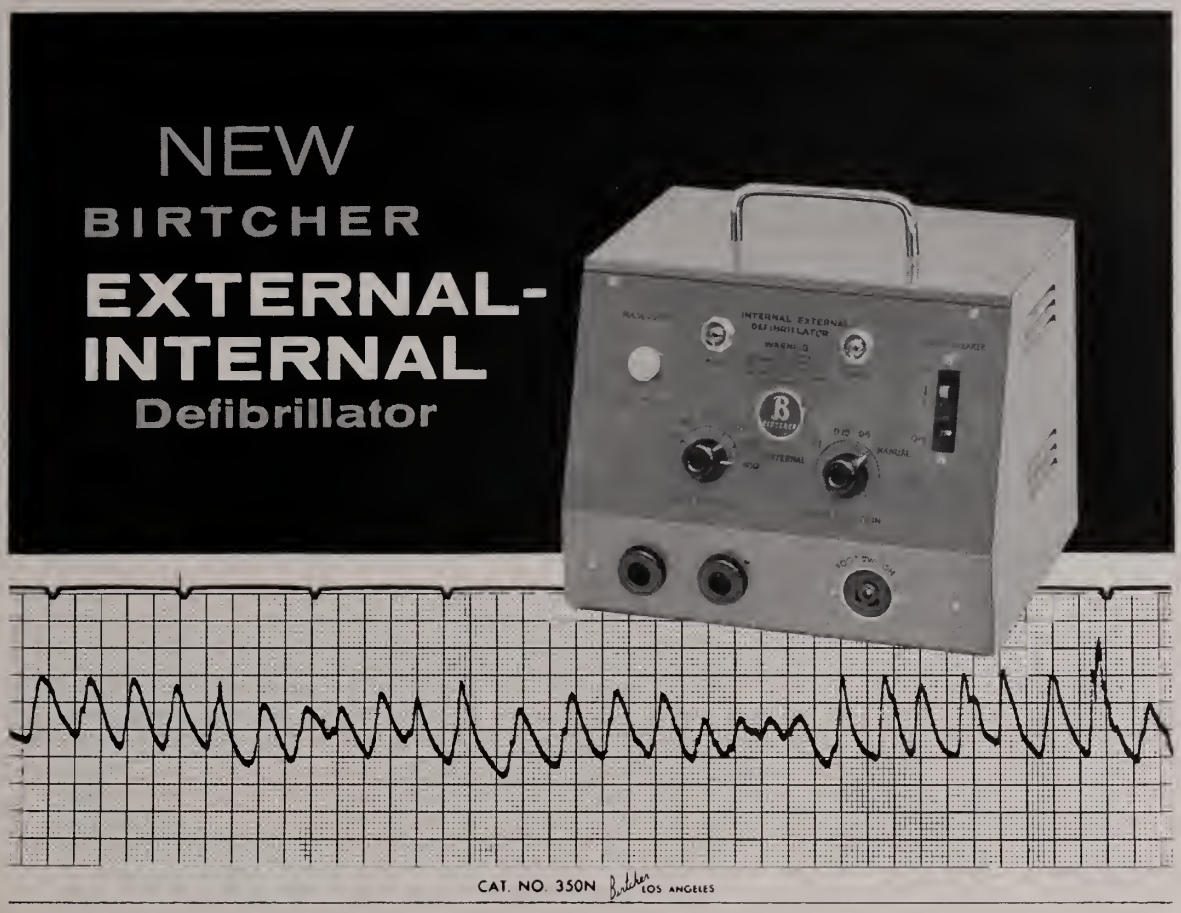

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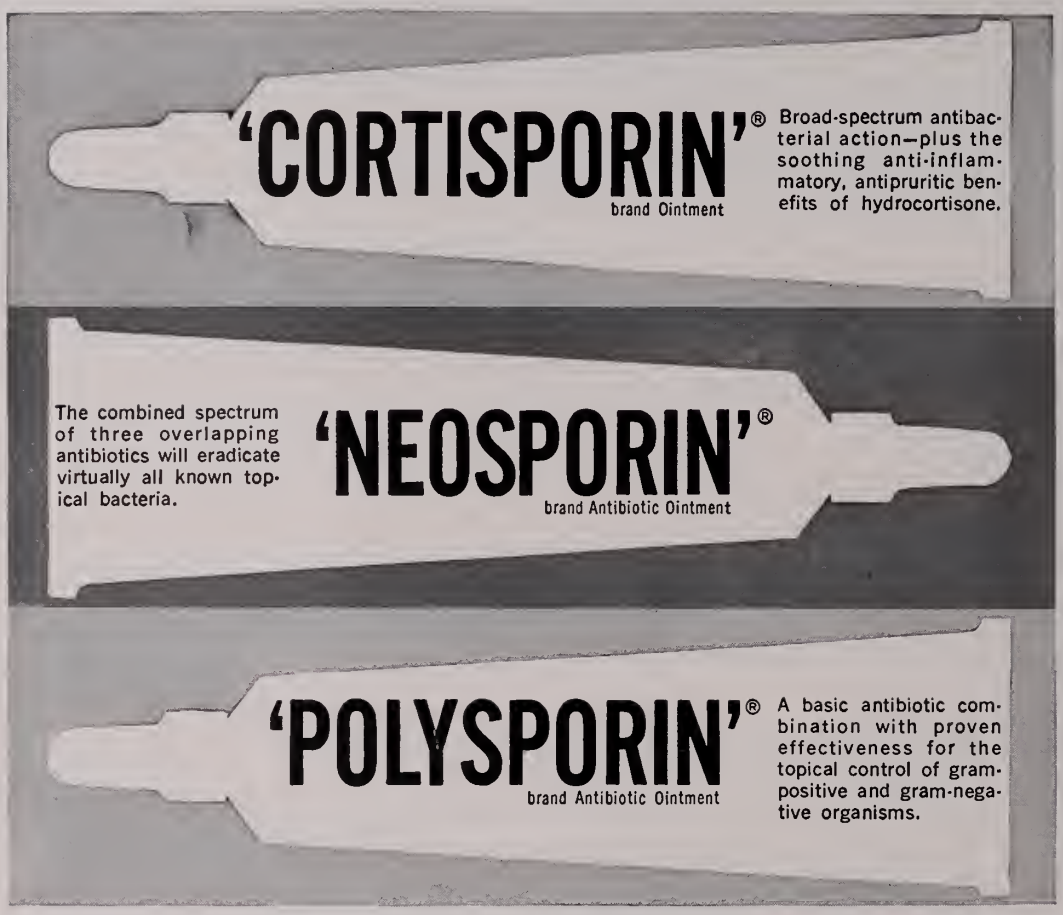

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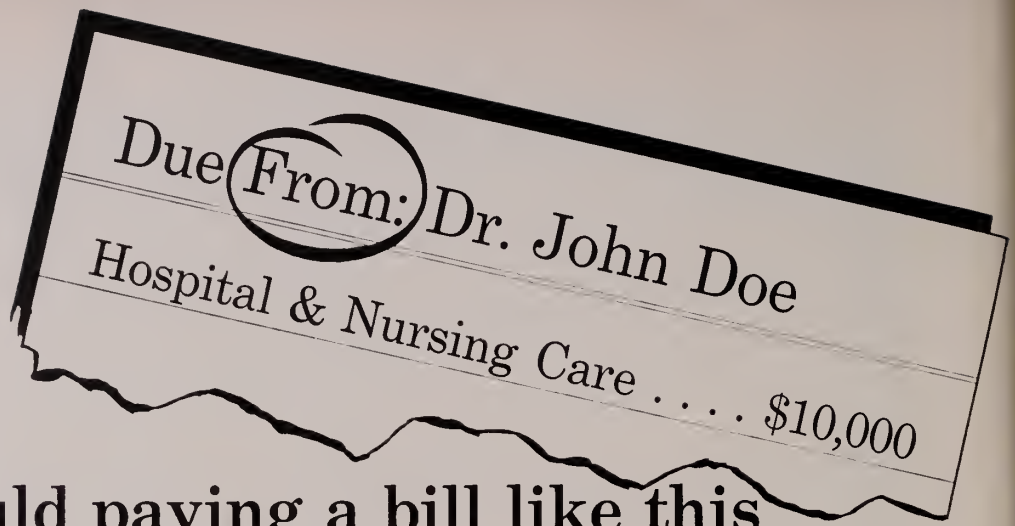

Doctor . . .

• What would paying a bill like this do to your personal finances?

• And what about additional bills for your continuing Office Expenses — if YOU had been the patient?

AS A PRACTICING PHYSICIAN . . .

. . . knowing that today's hospital confinements mean BIG bills, you should be the first to own "catastrophic" hospital-nurse insurance for yourself and your family's *assured* protection.

PLAN 1

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PAYS 100% of Hospital Room & Board Charges and Hospital Miscellaneous Expense PLUS 75% of in-hospital Nurse Fees — after the selected Deductible Amount has been applied — up to a $10,000 overall Limit of Payment for expenses incurred within 3 years of any one accident or sickness. Applies to each insured Member, Spouse or Dependent Child.

You have a choice of 3 deductible amounts, assuring the 'right' protection at the 'right' cost for YOU!

AS A PRACTICAL BUSINESSMAN . . .

. . . knowing that today it costs BIG money to operate your office — even when you are sick or injured and can't be 'on duty' — it's only good business to obtain Overhead Expense protection.

PLAN 2

Professional Overhead Expense

PAYS covered Office Expenses — Rent, Employees' Salaries, Heat, etc. — when you are continuously disabled by injury or sickness for 14 days or more. Payments are made *directly to you*, and can continue for as long as 1 year if you are totally disabled that length of time.

You *select* only the protection you need — from $200 up to $1,000 a month — based on actual operating expenses. And initial law cost eventually is even lower because premiums are *tax-deductible!*

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UNDERWRITTEN BY AMERICAN CASUALTY CO. READING, PA.

DAVID A. DYER, Administrator

Medical Arts Building **Roanoke, Virginia**

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ANNOUNCING—
SPECIFICALLY FOR
INFECTIONS DUE TO
"RESISTANT" STAPHYLOCOCCI

AN ENTIRELY NEW SYNTHETIC
"STAPH-CIDAL" PENICILLIN

Staphcillin™

sodium dimethoxyphenyl penicillin
FOR INJECTION

UNIQUE—BECAUSE IT
RETAINS ANTIBACTERIAL
ACTIVITY IN THE PRESENCE OF
STAPHYLOCOCCAL PENICILLINASES
WHICH INACTIVATE
OTHER PENICILLINS

Bristol™

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NEW SYNTHETIC PENICILLIN FOR "RESISTANT" STAPH

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STAPHCILLIN™

(sodium dimethoxyphenyl penicillin)

For Injection

DESCRIPTION

Staphcillin is a unique new synthetic parenteral penicillin produced by Bristol Laboratories for the specific treatment of staphylococcal infections due to resistant organisms. Its uniqueness resides in its property of resisting inactivation by staphylococcal penicillinase. It is active against strains of staphylococci which are resistant to other penicillins.

Each dry filled vial contains: 1 Gm. Staphcillin (sodium dimethoxyphenyl penicillin), equivalent to 900 mg. dimethoxyphenyl penicillin activity.

INDICATIONS

Staphcillin is recommended as specific therapy only in infections due to strains of staphylococci resistant to other penicillins, e.g.:

Skin and soft tissue infections: cellulitis, wound infections, carbuncles, pyoderma, furunculosis, lymphangitis and lymphadenitis.

Respiratory infections: staphylococcal lobar or bronchopneumonia, and lung abscesses combined with indicated surgical treatment.

Other infections: staphylococcal septicemia, bacteremia, acute or subacute endocarditis, acute osteomyelitis and enterocolitis.

Infections due to penicillin-sensitive staphylococci, streptococci, pneumococci and gonococci should be treated with Syncillin™ or parenteral penicillin G rather than Staphcillin. Treponemal infections should be treated with parenteral penicillin G.

DOSAGE AND ADMINISTRATION

Staphcillin is well tolerated when given by deep intragluteal or intravenous injection.

As is the case with other antibiotics, the duration of therapy should be determined by the clinical and bacteriological response of the patient. Therapy should be continued for at least 48 hours after the patient has become afebrile, asymptomatic and cultures are negative. The usual duration has been 5-7 days.

Intramuscular route: The usual adult dose is 1 Gm. every 4 or 6 hours. Infants' and children's dosage is 25 mg. per Kg. (approximately 12 mg. per pound) every 6 hours.

Intravenous route: 1 Gm. every 6 hours using 50 ml. of sterile saline solution at the rate of 10 ml. per minute.

**Warning:* Solutions of Staphcillin and kanamycin should not be mixed, as they rapidly inactivate each other. Data on the results of mixing Staphcillin with other antibiotics are being accumulated.

DIRECTIONS FOR RECONSTITUTION

Add 1.5 ml. sterile distilled water or normal saline to a 1 Gm. vial and shake vigorously. Withdraw the clear, reconstituted solution (2.0 ml.) into a syringe and inject. The reconstituted solution contains 500 mg. of Staphcillin per ml. Reconstituted solutions are stable for 24 hours under refrigeration.

For intravenous use, dilute the reconstituted dose in 50 ml. of sterile saline and inject at the rate of 10 ml. per minute.

*This statement supersedes that in the Official Package Circulars dated September and/or October, 1960.

(continued)

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MICROBIOLOGICAL AND PHARMACOLOGICAL PROPERTIES

In vitro studies show that STAPHCILLIN is a bactericidal penicillin with activity against staphylococci resistant to penicillin G. Strains of staphylococci so far tested have been sensitive to STAPHCILLIN *in vitro* at concentrations of 1-6 mcg. per ml. These levels are readily attained in the blood and tissues by administration of STAPHCILLIN at the recommended dosage. This unique attribute is probably due to the fact that STAPHCILLIN is stable in the presence of staphylococcal penicillinase. STAPHCILLIN also resists degradation by *B. cereus* penicillinase. The antimicrobial spectrum of STAPHCILLIN with regard to other microorganisms is qualitatively similar to that of penicillin G; but considerably higher concentrations of STAPHCILLIN are required for bactericidal activity than is the case with penicillin G.

STAPHCILLIN is rapidly absorbed after intramuscular injection. Peak blood levels (6-10 mcg. ml. on the average after a 1.0 Gm. dose) are attained within 1 hour; and then progressively decline to less than 1 mcg. over a 1 to 6 hour period. It is poorly absorbed from the gastrointestinal tract. STAPHCILLIN is rapidly excreted by the kidney.

As shown by animal studies, STAPHCILLIN is readily distributed in body tissues after intramuscular injection. Of the tissues studied, highest concentrations are reached in the kidney, liver, heart and lung in that order; the spleen and muscles show lower concentrations of the antibiotic. STAPHCILLIN diffuses into human pleural and prostatic fluids, but its diffusion into the spinal fluid has not yet been completely studied. However, one patient with meningitis showed a significant concentration in his spinal fluid while on STAPHCILLIN therapy.

Toxicity studies with STAPHCILLIN and penicillin G in animals show that they have approximately the same low order of toxicity.

Certain staphylococci can be made resistant to STAPHCILLIN in the laboratory, but this resistance is not related to their penicillinase production. During the clinical trials, no STAPHCILLIN-resistant strains of staphylococci were observed or developed; the possibility of the emergence of such strains in the clinical setting awaits further observation.

PRECAUTIONS

During the clinical trials, several mild skin reactions, e.g., itching, papular eruption and erythema were observed both during and after discontinuance of STAPHCILLIN therapy. Patients with histories of hay fever, asthma, urticaria and previous sensitivity to penicillin are more likely to react adversely to the penicillins. It is important that the possibility of penicillin anaphylaxis be kept in mind. Epinephrine and the usual adjuvants (antihistamines, corticosteroids) should be available for emergency treatment. Because of the resistance of STAPHCILLIN to destruction by penicillinase, parenteral *B. cereus* penicillinase may not be effective for the treatment of allergic reactions. Information with regard to cross-allergenicity between penicillin G, penicillin V, phenethicillin (Syncillin) and STAPHCILLIN is not available at present. If superinfection due to Gram-negative organisms or fungi occurs during STAPHCILLIN therapy, appropriate measures should be taken.

SUPPLY

List 79502 – 1.0 Gm. dry filled vial.

BRISTOL LABORATORIES · SYRACUSE, NEW YORK
Division of Bristol-Myers Company

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UNIQUE SYNTHETIC "STAPH-CIDAL" PENICILLIN

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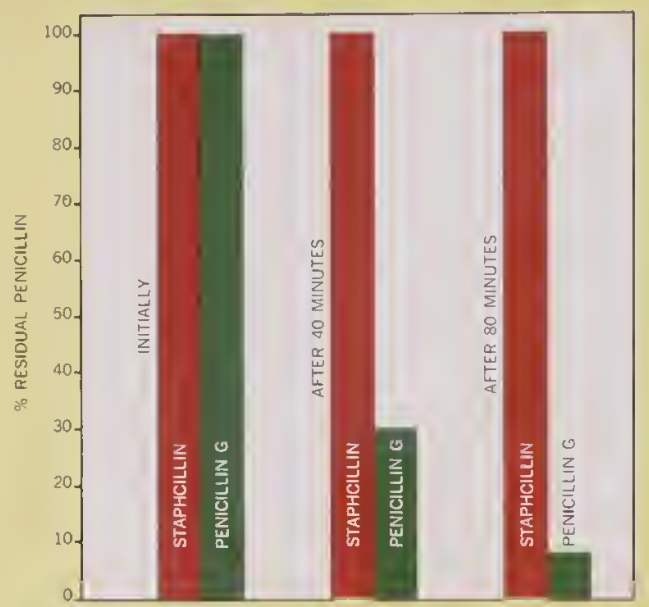

In the presence of staphylococcal penicillinase, STAPHCILLIN remained active and retained its antibacterial action. By contrast, penicillin G was rapidly destroyed in the same period of time. *(After Gourevitch et al., to be published)*

Specifically for "resistant" staph...

Staphcillin™

sodium dimethoxyphenyl penicillin
FOR INJECTION

The failure of staphylococcal infections to respond to penicillin therapy is attributed to the penicillin-destroying enzyme, penicillinase, produced by the invading staphylococcus.

Unlike other penicillins:

1 STAPHCILLIN is effective because it retains its antibacterial activity despite the presence of staphylococcal penicillinase.

2 The clinical effectiveness of STAPHCILLIN has been confirmed by dramatic results in a wide variety of infections due to "resistant" staphylococci, many of which were serious and life-threatening.

Like other penicillins:

STAPHCILLIN has no significant systemic toxicity. It is well tolerated locally, and pain or irritation at the injection site is comparable to that following the injection of penicillin G. *In occasional cases, typical penicillin reactions may be experienced.*

PROFESSIONAL INFORMATION SERVICE – The attached Official Package Circular provides complete information on the indications, dosage, and precautions for the use of STAPHCILLIN. If you desire additional information concerning clinical experiences with STAPHCILLIN, the Medical Department of Bristol Laboratories is at your service. You may direct your inquiries via collect telephone call to New York, PLaza 7-7061, or by mail to Medical Department, Bristol Laboratories, 630 Fifth Ave., N. Y. 20, N. Y.

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with Campanula (Canterbury Bells) in foreground

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Pil. Digitalis (Davies, Rose)
0.1 Gram (1½ grains) or 1 U.S.P. Digitalis Unit.
They are physiologically standardized,
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Being Digitalis in its completeness,
this preparation comprises the
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Vertigo is reversible

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moderate to complete relief of symptoms in 9 out of 10 patients[1]

Prescribe one ANTIVERT tablet (or 1-2 teaspoonfuls ANTIVERT syrup) 3 times daily, before each meal, for prompt relief of vertigo, Meniere's syndrome and allied disorders. Side effects are short-lived, usually only harmless flushing and tingling associated with vasodilation. ANTIVERT is contraindicated in severe hypotension and hemorrhage.

Supplied: Small blue-and-white scored tablets (meclizine HCl 12.5 mg. and nicotinic acid 50 mg.) in bottles of 100. Syrup in pint bottles. Prescription only. Bibliography available on request.

And for your aging patients—
NEOBON® Capsules: five-factor geriatric supplement.

Reference: 1. Scal, J. C.: Eye Ear Nose & Throat Month. 38:738 (Sept.) 1959.

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Division, Chas. Pfizer & Co., Inc.
Science for the World's Well-Being®

now available:
Antivert syrup

Each teaspoonful (5 cc.) contains 6.25 mg. meclizine HCl and 25 mg. nicotinic acid.

How to help your patient stick to a "regularity" diet

The secret ingredient in a successful diet is acceptance. Bulky foods, essential to a "regularity" diet, will have more appeal if they are attractively prepared. Variety helps a patient follow a diet enthusiastically, too. Chilled orange and apple compote is inviting, rich in cellulose and pectin which absorbs fluid to form smooth bulk. Beets and carrots are also good pectin sources. Cranberries in oatmeal muffins offer cellulose plus Vitamin B complex. And liquids are vital, of course—8 to 10 glasses a day.

A glass of beer can add zest to a patient's diet.

8-oz. glass supplies about ⅙ minimum Niacin requirements and smaller amounts of other B Complex Vitamins. (Average of American Beers)

Diet patients find an incentive in appetizing "bulk" foods like these.

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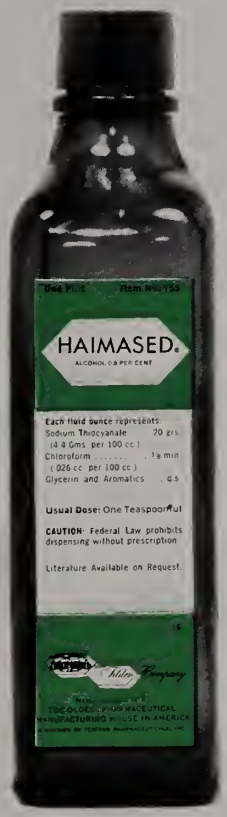


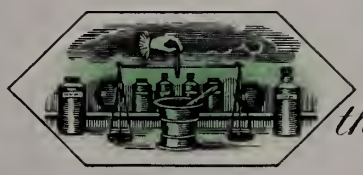
Lower blood pressure effectively...safely, with this time-tested Sodium Thiocyanate formula. The proved clinical record of Haimased for 27 years and more than 1,500,000 prescriptions shows this to be the therapy of choice over the newer, potentially more toxic Hexamethonium[1]-veratrum-rauwolfia preparations. A reduction of 30 to 50 mm. Hg in systolic pressure, without orthostatic hypotension, can be anticipated in up to 40—70% of patients.[2,3,5] Sympathectomy appears to increase the antihypertensive action of Haimased.[4,5]

DOSAGE: During the first five to seven days of treatment, 1 teaspoonful of Haimased (representing 2½ grains—or .16 Gm.—of Sodium Thiocyanate) well diluted in water, three times a day, is considered adequate to produce a blood concentration sufficient for a decline of elevated blood pressure and alleviation of symptoms associated with hypertension. Many clinicians prefer to start with one-half this dose and gradually build up until effect on blood pressure is noted and adequate blood levels reached. Since Haimased is a liquid, it permits fractional, easier adjustment of correct dosage. As the blood pressure approaches the estimated normal, the quantity must be gradually reduced to a maintenance dose of 1 teaspoonful of Haimased daily (2½ grains of Thiocyanate or .16 Gm.) over an extended period of time, without the development of secondary toxic effects. In certain patients, it may be best to interrupt medication for a period of one month after three or four months of administration. Reduced blood pressure levels may be maintained for many days after dosage is decreased or administration temporarily discontinued.

FORMULA: Palatable, stable, easy-to-take fluid. Each 100 cc. of Haimased represents 4.4 Grams (20 grains to the fluid-ounce) of Sodium Thiocyanate; alcohol 0.8% by volume; glycerine and aromatics q.s. No Sugars. **SUPPLIED:** In pint and gallon bottles.

CONTRAINDICATIONS: Thiocyanates should not be used in patients with congestive heart failure, easily provoked recurring attacks of angina pectoris, severe debility, nephritis, renal insufficiency, or cerebral damage. The dosage of Haimased should be decreased in the presence of extreme fatigue, vomiting, abdominal cramps, or diarrhea. Administration should be terminated immediately upon manifestation of such symptoms as exfoliative dermatitis, psychosis, and delirium, occurring occasionally with blood levels higher than 12 mg.

References: 1. California Medicine 80:375, 1954; 2. Peterson, D. M.: J. Missouri S.M.A. 40:279, 1943; 3. Lindberg, H. A., Treger, N. V., Barker, M. H.: Quarterly Bull., Northwestern Univ. Med. School, Vol. 22, No. 1, 59, 1948; 4. Davis, L.: Postgraduate Med. 9:321, 1951; 5. Goodman and Gilman, The MacMillan Co., New York, 1958.



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For your patients with infections or other illnesses who need therapeutic vitamin support. Each Theragran supplies the essential vitamins in truly therapeutic amounts:

Vitamin A	25,000 U.S.P. Units
Vitamin D	1,000 U.S.P. Units
Thiamine Mononitrate	10 mg.
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Niacinamide	100 mg.
Vitamin C	200 mg.
Pyridoxine Hydrochloride	5 mg.
Calcium Pantothenate	20 mg.
Vitamin B_{12}	5 mcg.

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"nutrition...present as a modifying or complicating factor in nearly every illness or disease state"[1]

1. Youmans, J. B.: Am. J. Med. 25:659 (Nov.) 1958

cardiac diseases "Who can say, for example, whether the patient chronically ill with myocardial failure may not have a poorer myocardium because of a moderate deficiency in the vitamin B-complex? Something is known of the relationship of vitamin C to the intercellular ground substance and repair of tissues. One may speculate upon the effects of a deficiency of this vitamin, short of scurvy, upon the tissues in chronic disease."[2] 2. Kampmeier, R. H.: Am. J. Med. 25:662 (Nov.) 1958.

arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]

3. Fernandez-Herlihy, L: Lahey Clinic Bull. 11:12 (July-Sept.) 1958.

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.: Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57.

degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser, W., and Fong, T.C.C. in Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G. A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec 10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]

8. Duncan G. G.: Diseases of Metabolism 4th edition W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958.

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Ideal New Geriatric Tonic Stimulant

NICOZOL COMPLEX is a cerebral stimulant-tonic and dietary supplement intended for geriatric use. Improves mental and physical well-being. Improves protein and calcium metabolism. Indicated during convalescence, also as a preventive agent in common degenerative changes.

Dosage:

1 teaspoonful (5 cc) 3 times a day, preferably before meals. Female patients should follow each 21-day course with a 7-day rest interval.

Supply:

NICOZOL COMPLEX is available as a pleasant-tasting elixir. Popularly priced. Bottles of 1 pint and 1 gallon.

Formula

Each 15 cc (3 teaspoonfuls) contains:

Pentylenetetrazol	150 mg.
Niacin	75 mg.
Methyl Testosterone	2.5 mg.
Ethinyl Estradiol	0.02 mg.
Thiamine Hydrochloride	6 mg.
Riboflavin	3 mg.
Pyridoxine Hydrochloride	6 mg.
Vitamin B-12	2 mcg.
Folic Acid	0.33 mg.
Panthenol	5 mg.
Choline Bitartrate	20 mg.
Inositol	15 mg.
1-Lysine Monohydrochloride	100 mg.
Vitamin E (a-Tocopherol Acetate)	3 mg.
Iron (as Ferric Pyrophosphate)	15 mg.

Trace Minerals as: Iodine 0.05 mg., Magnesium 2 mg., Manganese 1 mg., Cobalt 0.1 mg., Zinc 1 mg.

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prompt,
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relief o

painful skeletal muscle spasm

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Relaxation — obtained *within minutes* with ROBAXIN Injectable.
— maintained *without drowsiness* with ROBAXIN Tablets.

Nine published studies show:

Beneficial results in 90% of cases of skeletal muscle spasm with ROBAXIN.

Clinical responses to ROBAXIN therapy, as reported by investigators:

"*marked*" in 26 out of 33 patients, moderate in 6...[1] "*pronounced*" in 37 out of 58 patients, moderate in 20...[2] "*good*" in 25 out of 38 patients, moderate in 6...[5] "*excellent*" in 14 out of 17 patients, moderate in 2...[6] "*significant*" in 27 out of 30 patients...[7] "*gratifying*" in 55 out of 60 patients...[8] "*effective*" in 32 out of 32 patients...[9] "*marked*" in 27 out of 46 patients, moderate in 6...[4] "*good*" in 57 out of 60 patients, moderate in 3.[10]

ROBAXIN exhibits "great freedom from undesired side reactions,"[3] does not produce "concomitant euphoria or partial anesthesia,"[10] and permits patients to retain concentration and awareness.[8]

For immediate relaxation of acute skeletal muscle spasm:

Robaxin® Injectable — each ampul containing 1.0 Gm. of methocarbamol in 10 cc. of sterile solution.

For initiating therapy or maintaining relaxation induced by ROBAXIN *Injectable:*

Robaxin® Tablets — 0.5 Gm. (white, scored) in bottles of 50 and 500.

Also available: *When pain and spasm require concurrent analgesic and relaxant action:*

Robaxisal® Tablets — Robaxin with Aspirin

—and for skeletal muscle relaxation with more comprehensive analgesia:

Robaxisal®— PH — Robaxin with Phenaphen®

Literature available to physicians on request.

REFERENCES: 1. Carpenter, E. B.: Southern M.J. 51:627, 1958. 2. Forsyth, H. F., J.A.M.A. 167:163, 1958. 3. Hudgins, A. P.: Clin. Med. 6:2321, 1959. 4. Grisolia, A., and Thomson, J. E. M.: Clin. Orthopaedics 13:299, 1959. 5. Lewis, W. B.: California Med. 90:26, 1959. 6. O'Doherty, D. S., and Shields, C. D.: J.A.M.A. 167:160, 1958. 7. Park, H. W.: J.A.M.A. 167:168, 1958. 8. Plumb, C. S.: Journal-Lancet 78:531, 1958. 9. Poppen, J. L., and Flanagan, M. E.: J.A.M.A. 171:298, 1959. 10. Schaubel, H. J.: Orthopedics 1:274, 1959.

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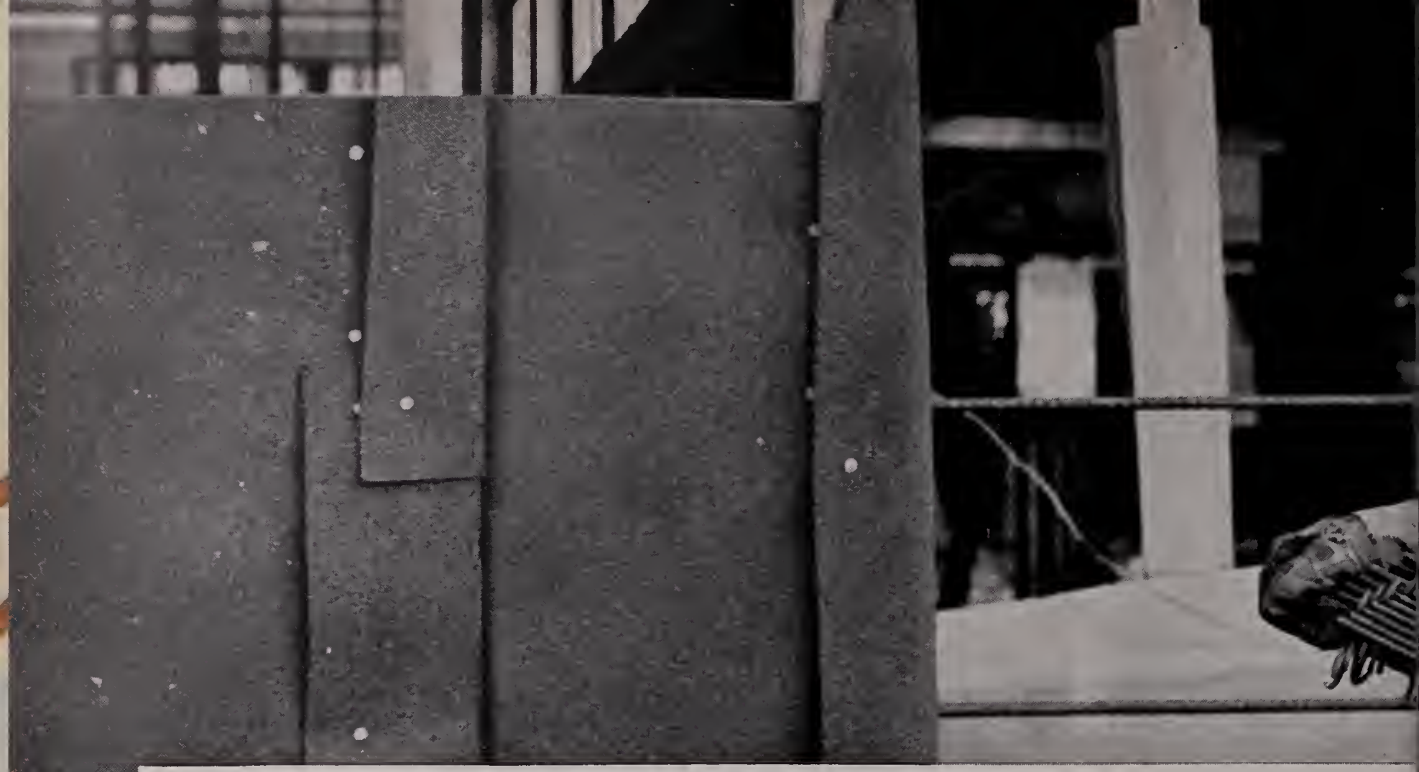

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Soma's prompt relief of pain and stiffness can get your low-back patients back to work in days instead of weeks

Soma is unique because it combines the properties of an effective muscle relaxant and an independent analgesic in *a single drug*. Unlike most other muscle relaxants, which can only relax muscle tension, Soma attacks both phases of the pain-spasm cycle at the same time.

Thus with Soma, you can break up both pain and spasm fast, effectively . . . help give your patient the two things he wants most: relief from pain and rapid return to full activity.

Soma is notably safe. Side effects are rare. Drowsiness may occur, but usually only with higher dosages. Soma is available in 350 mg. tablets. Usual dosage is 1 tablet q.i.d.

The muscle relaxant with an independent pain-relieving action

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How you can help save your patients a month's pay

Kestler reports in J.A.M.A. (April 30, 1960) that conventionally treated low-back syndrome patients required an average of 41 days for full recovery (range: 3 to 90 days). The addition of Soma therapy in this comparative investigation reduced the average to 11.5 days (range: 2 to 21 days). With Soma, patients averaged full recovery 30 days sooner.

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Case history courtesy of Joel Goldman, M.D., Johnstown, Pa.
These photographs of Dr. Goldman's patient were taken on November 10, 1960.
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Guest Editorial....

Gout—a New Concept

PERHAPS the most dramatic acting drug in the medical armamentarium is colchicine when given intravenously in the treatment of acute gout, especially in its early stages. Relief is often achieved within ten minutes. Many a gouty toe would have been spared the surgeon's knife in the Out-Patient Department if the gouty individual had been given a trial by intravenous colchicine.

The action of colchicine is not understood. For many years it has been known that colchicine stops mitosis. It was Lucretia Borgia's favorite poison. During the 17th and 18th centuries, its use by British and French physicians was prohibited. Too many patients died from its unskilled administration. The penalty was great if a physician was apprehended using this drug which was known to the Chinese 2000 years B.C.

During the period when colchicine administration was prohibited, many cases of cerebral gout or epilepsy due to gout were reported. The only cure was to allow the urate to run out of the toe or finger as pus out of a boil. During this process, urate became deposited in various tissues, and the disease progressed oftentimes to the death. One poor soul was said to have discharged from one toe so much urate before he died that it was saved and used for his tombstone.

Trousseau's lectures in clinical medicine, delivered at the Hotel Dieu in Paris were published in 1882. He reported two cases of cerebral gout. One of these was autopsied.

The second of these cases died in a state of coma at the age of 40. "During his youth," stated Trousseau, "he was a man of vigorous constitution even though a child of gouty parents. He had at the age of 25 been subject to attacks of frank, regular, acute gout. Being a friend of pleasure and incapable of submitting to any restraint which prevented him from giving himself up to his pleasure, he had recourse to the pills of Lartique and the syrup of Boubee whenever the paroxysm set in. These remedies

never failed to produce the effect which the patient expected from them. It took 15 years, but then the day of reckoning was at hand, and he died a miserable bedridden derelect in a state of coma."

It was a moot question with Drs. Sydenham and Trousseau whether one should treat gout. Trousseau stated, "However great may be my desire to relieve my patients, I still ask myself the question, ought we to treat gout?"

Sydenham felt the gouty subject was a sort of charged machine which had to be discharged externally, by some safety valve, so as to prevent an internal explosion.

Trousseau wrote, "that a certain Baylas and a certain Acragus were incased alive in the chalk which they secreted in such frightful quantities that their tombs might have been constructed from the material they supplied." He further said, "It is a fact that gouty patients sometimes produce 300 grams of calcarious matter from one joint."

Gout attacks occur chiefly in the male (98%). Attacks occur classically in the early a.m. when spermatogenesis is at its height. The attacks are usually controlled by colchicine, whose chief known effect is on mitosis.

In the sperm mitosis is most abundant. During active mitosis, nucleic acid is liberated. This nucleic acid is the forerunner of uric acid, which in man for the most part is converted into urea nitrogen before excretion in the urine, although some uric acid is excreted. (Preliminary experiments we have done show a rise of urea nitrogen in the urine during the first twenty-four hours following the intravenous administration of colchicine. Uric acid levels are not affected in the urine.) It is thought that colchicine stops mitosis, stops the formation of nucleic acid, which is probably the culprit in gouty attacks, helps convert nucleic acid into its normal metabolic stream to uric acid and thence to urea nitrogen for excretion.

Recently, a tablet composed of .25 mg. of colchicine and .75 mg. of dexamethasone has been given orally to ten gouty patients at the onset of acute attacks. The therapeutic results have been excellent.

Gout has been said to be a disease of high livers; we believe that the reverse is true. Men with gout live high. They are usually successful, have a zest for living, have great energy, and a long love life usually due perhaps to a stimulation from an excess of nucleic acid.

John Staige Davis, M.D.

135 East 65th Street
New York, New York

The Physician's Responsibility in the Care of the Aged

HUGH H. TROUT, Jr., M.D.
Roanoke, Virginia

The interest and understanding of a kindly physician is most important in the medical care of the aged. Much will be lost if this aspect of medicine is discarded.

THE JOB of the physician in the care of the aging is twofold:

His first and most immediate concern is the personal care he gives to his own patients.

The second and one which cannot be shirked by the physician is his responsibility to the community to see that the aging receive not only adequate but, even more important, the proper type of care.

In attempting to define "Aged" or even "Aging" we see at once the impossibility of choosing any specific chronological age at which the practice of geriatrics begins. Some of our patients in the early sixties are old. On the other hand, we all have friends in their seventies who are quite youthful physically, mentally and emotionally. Bismarck was the culprit who arbitrarily set the age of 65 for retirement. To select one example from many that aging is relative, Sir Winston Churchill published the fourth volume of his "History of the English Speaking Peoples" two years ago at the age of 84. To the old saying that a man is as old as he feels and a woman as she looks, I would add "and as old as they think". Activity of the mind and interests outside one's self postpone the aging process.

The first thing a physician can do from the viewpoint of general treatment of the aging is one of prophylaxis. Some help can be given in this respect by good medical care in the years before old age is reached. This includes not only periodic checkups and treatment of any disability encountered, but also public dissemination of medical information of the type proper for the lay public to have. As an example of the former, one might consider the diagnosis and treatment of diabetes and of hypertension thus minimizing the effect of these diseases on the vascular system in later years. As an example of the latter, the spread of information concerning early signs of cancer, and the ill effects of alcohol and tobacco are proper fields for wide dissemination of information to the lay public.

In general medical treatment of patients, a thorough knowledge of the physical, mental, and emotional status of the patient is necessary. Such information can best be acquired by long knowledge and association of the physician with the patient. It is for this reason that many of the old family physicians were so beloved and indeed so valuable. Many times their judgment was superior to the judgment of a younger physician with better training and greater scientific knowledge. There is, however, no conflict between better training and greater scientific knowledge and one filled with great human understanding. Were the choice between these, certainly we would prefer our own patients, friends and selves to be under the care of one with great scientific knowledge, but one does not preclude the

other. In our quest for further advancement in the science of medicine, let us be equally diligent to drink deep in the well of the art of medicine. To many a "good bedside manner" implies "probable poor medicine". Actually it has nothing to do with the scientific knowledge of the physician. A good bedside manner is one part of the art of medicine and should be applauded rather than condemned.

We must encourage the use of exercise of an amount and type that the patient can physiologically tolerate. Psychologically and physiologically they will be helped by occupational therapy, association with other people, being made to get fully dressed and taking an interest in their personal appearance and participation in activities: art, drama, knitting, and gardening. We must remember that the senile ones in this group may be going through a recession advancing into infancy. This year we may have a four year old, next year a two year old and the year after our patient may be six months in age. While this is Linden's philosophy[1] it is not new. Aristophanes stated "old age is but a second childhood". This recessive rate may be slowed by the various adjunctive measures mentioned above. Finally, our duty is to know our patient. One old lady requires a good dirty joke daily, another a squeeze of the hand, a third a frank discussion of the medical status, and a fourth a sympathetic audience for her to tell of her belief in a life hereafter. Dr. Askey in his Presidential Address at the American Medical Association meeting stated "Let us never forget that the doctor must always be counsellor and friend".[2] In no group is this truer than in the aged. From England, Dr. Rudd of the Geriatrics Division of South Hampton Group of Hospitals has said "Satisfactions in old age depend on human relationships rather than on the mechanical provision of human needs".[3]

Fundamentally these patients need what all of us need, "The need to be needed". Browning has stated, "We live by admiration, love and praise." Cannot we as physicians admire them, praise them, and indeed love them?

We know that an individual is the product of his heredity and life-long environment. Therefore we are not in a position to change the pattern so that the person will live to die "sustained and soothed by an unfaltering trust" but we can give them comfort by bolstering their belief in an omnipotent being and a life hereafter which belief is such succor to the dying.

We cannot leave the discussion of our personal responsibility to the very elderly without touching on the controversial subject of euthanasia. Theoretically there is no medical or legal method of setting up any type of commission to allow a human vegetable or individual in torture to be put out of his misery. As long as there is any hope whatsoever of any real improvement in the patient's condition, I fight to the last bitter gasp to prolong his life with every scientific method I know, but in a patient who has no possible hope of palliation, let alone cure, my conscience allows me to let that patient die peacefully rather than fighting for a few additional hours with intensive stimulation.

For very many years now we have fought for ever increasing longevity statistics. We have succeeded largely through the effort of our research scientists and our own minds and hands. Now comes the problem of what to do about the aging process of the human body and the human mind. How do we keep the process of prolonging life and delaying senility in balance? How should we care for the aged and the senile as doctors and citizens? This is our second responsibility.

There are 16 million persons in the United States over 65, almost one-tenth of the population. The socialization of medicine is being promoted by the government—any government, Republican and Democratic—through this back door of "Care for the Aged". So it behooves us to give it our very thoughtful consideration.

Parenthetically, but underlining our need for concern, I would like to quote from a poll taken by the Congressional Quarterly back in July at the start of the political conventions: of 364 newspaper editors the overwhelming majority gave "foreign policy" first in the ten top issues of the 1960 campaign, with "medical care for the aged" second, "farm policy" third, "military preparedness" fourth and so on. The 204 Senators and Representatives who answered put "foreign policy" second. Their top issue was "medical care for the aged". I don't presume to know why our Senators and Congressmen would put this problem before all others, but it occurs to me that many of those 16 million referred to above can and do VOTE.

As physicians what are our responsibilities as members of the community? First, we must make every effort to insure sufficient numbers of capable physicians. To me there is no possibility of there being too many physicians in the foreseeable future. While a few new medical schools have been opened up in the past 15 years, their number is pitifully small. The population of the country is increasing at a much greater rate than the number of new physicians entering practice. In spite of the tremendous growth of adjunct medical services, effort should be made to increase the physician supply. This cannot be done by merely asking every medical school to increase the number of their students by twenty-five per cent. This would only result in having poor physicians and decreasing the caliber of medical care that the public receives. The problem is quite complex but the necessity for adequate teachers and teaching facilities per student is fundamental. We as physicians should recognize this problem and use our influence financially, politically, and morally to help the medical schools in their quest for good teachers and adequate teaching facilities and in the development of new medical schools. After World War II the medical schools were blessed with a plethora of applications. Not only was the number of applicants excessive but the quality was extremely high. We are now being asked by the medical schools to use our influence in interesting qualified young students to enter the medical profession. The greater financial gains in other fields of endeavor, the fear of socialized medicine, and the long hours of work have all been indicted as the cause of the decreasing number and quality of applicants. Rather than combating these arguments, none of which can be gainsaid, should we not appeal to the youth with the best argument of all: the extreme personal satisfaction of the life of a physician. Absence of great wealth and the necessity for hard work should not be denied, but should be counted as blessings. A life of "blood, sweat, and tears" will attract the type of student who will make the best doctor.

A second community responsibility of the physician is to see that the aged have adequate physical care. This is accomplished in two ways. The better way is for the family to each care for their own, as was the general custom until this century. The older person is much more apt to receive the vital moral and spiritual help needed under this system than one so common at the present time of placing them in a "home". We are all aware, however, of many instances in which an elderly person cannot be physically cared for by his family. There are also innumerable situations in which the presence of a particular elderly individual would wreck a home and in this situation the "old peoples home" must do. Let us see that there are an adequate number of nursing homes of good quality and that there is an increased use of physical, occupational and spiritual therapy in these homes.

What have we as physicians been advocating in order that the elderly citizens will have proper medical care now and in the future? We have been urging the expansion of private insurance plans. This is now a real factor in the care of the aged as six out of the 16 million citizens over 65 have some type of health insurance coverage. Our

efforts should continue in seeing that the growth rate of the insurance coverage of the aged is increased. Secondly, we have urged the local and state governments to take their share of responsibility in the care of these citizens. Thirdly, and as a corollary to the second, we have fought the encroachment of the Federal Government. It goes without saying that the farther the dollar strays from home the less valuable it becomes. The function of the Federal Government not only in this but in all areas is to take care only of those necessary things that the people cannot take care of themselves.

We may assume that Senator Harry Byrd and Governor Mennon Williams have the same goals in view. The great difference is in the method of obtaining these goals. It is also obvious that all groups, employer and employee, the professional groups and the aged have the same goals in view. We all wish a Utopia with a more comfortable and more abundant life for all, including the aged. This is no more surprising than Calvin Coolidge's minister being against sin. It is easier too for a welfare-state politician to pose as a humanitarian than for a politician who is trying to protect the soundness of the dollar and the savings of the elderly acquired over a lifetime of hard work. The conservative is brushed off by the news analyst "as living in the 19th Century".

Are we as physicians living in the 19th Century? Perhaps to some extent we are. The world is changing rapidly and it behooves us to keep pace. I believe that with proper help, private initiative and industry are able to handle the problem better but if not, Federal intervention will become inevitable. When the facts are in hand, let us face them. To quote Raymond Moley "There needs to be verified the number who need aid, the number who do not want government aid, the number of children able to do their moral duty to their parents, and the number who have private insurance." If possible those who still need aid should be helped on the local level. Should Federal assistance be deemed wise, let us not fight it, but put it on a temporary basis so that the law will die at a certain time unless there is a definite proven need for its continuance. Once a law is on the books, there is a great tendency not only for it to be perpetuated but gradually expanded as it is illustrated so vividly by the social security act. We should also continue our efforts to expand private insurance coverage. If the facts do not support need for additional federal legislation, an intensive campaign to give the facts to the American people should be made. Ultimately it is the people and not Congress who make the laws. Disraeli put it "All power is a trust; that we're accountable for its exercise; that from the people and for the people all springs, and all must exist." The American Medical Association's position is "Let's help those who need help." This is a reasonable proposition and one that we should back. In the last session of Congress, the Kerr-Mills bill for care of the aged was passed—essentially this provides federal aid for those states who request such aid. This will help cover the financial end of the problem until we have more facts in hand. At this time care for the aged under the social security program is being debated not only in the halls of Congress but also in the national news media.

Let us fight the encroachment of the omnipotent state. An omnipotent state may be able to provide for the physical care of the elderly but by its very character it deprives the aged of their need to be needed. In the oriental religions the aged are respected and the latter years are to be anticipated with pleasure and cherished. Cicero stated "Old age is the consummation of life, just as of a play." In western civilization until recently many of our own elderly citizens obtained esteem and respect because of their technical knowledge. This is now deprived them because of the rapid technical advances in industry. There is a dire need for youth to understand the values of old age and a dire need for the aged to replace the instincts of power, reproduction, and material assets

by lessons of the highest spiritual value. Jung has stated "The psychological necessity of life hereafter is a goal for a happy old age." [3] Can you imagine our Federal Government promoting such, in their opinion, nonsense. The Supreme Court might well call it unconstitutional. The omnipotent state provides care but also perpetuates "the delusion of safety where no safety exists." [3] Let us as physicians endeavor to provide not only the physical but also spiritual care for our senior citizens. Let us make them free, and we ourselves will indeed be free.

Summary

In all the discussions during the past year concerning care of the aged, only the physical and financial aspects of the problem have been stressed. Hardly mentioned, but more important, is the mental and spiritual care of these patients. The physician, as well as the family and the minister, should assume his share in this phase of therapy. We should also make the public, and through it the politicians, realize that the heart of the problem is missed when human relations are ignored.

References

1. Leeds, Morton: Senile Recession: A Clinical Entity? J. Am. Geriatric Soc. 2: 122. Feb., 1960.
2. Askey, E. Vincent: Address to the House of Delegates. J. A. M. A. 73, 10: 1061, July 9, 1960.
3. Rudd, T. N.: Security in Old Age: Its Philosophical Basis. J. Am. Geriatrics Soc. 6: 431, June, 1960.
4. Tibbitts, Clark: The 1961 White House Conference on Aging: Its Rationale, Objectives, and Procedures. J. Am. Geriatrics Soc. 5: 373, May, 1960.

1234 Franklin Road
Roanoke, Virginia

Life Expectancy Near 120

Life expectancy may approach 120 years in America by the end of this century, according to the Journal of the American Medical Association.

A steady upgrading of longevity in the West may reach the reputed longevity of certain peoples in the East, an editorial in the February 25th Journal said. More than 20 Civil War veterans passed the century mark with the oldest living to be 117.

There is evidence that men in Hunza Land, a remote and mountainous region of northern Pakistan, live to be 120 or even 140. Although not documented, such ages are believed to be within the limits of possibility.

"If scientific advances continue to be productive, and there is little doubt but that this will be factual—with eradication of infection, prevention of cancer, and inhibition of progression of the degenerative diseases—life expectancy in America should approach that of the fabled Hunzukuts by the end of this century and equal that of the Himalayan dwellers in the 21st century. The problems posed by such a probability merit careful study."

The Status of the Syndrome of Arteriomesenteric Occlusion of the Duodenum

A Critical Review

CHRISTIAN V. CIMMINO, M.D.
Fredericksburg, Virginia

After examining this syndrome thoroughly the author finds that its importance and incidence have been exaggerated.

THIS REVIEW has been designed to evaluate the syndrome of symptomatic occlusion of the duodenum by the superior mesenteric artery or its branches, first described by Rokitansky a century ago, claimed by some not to exist[55]; by others to be frequent, and often not diagnosed when present[24,69]; and by still others to exist but frequently overdiagnosed[27,46,67,72]. Diagnostic radiology has come of age, and the time is ripe for such an evaluation.

Nomenclature

Many names have been given the syndrome, most of which are inappropriate: 1. *superior mesenteric artery syndrome:* does not differentiate occlusion of the superior mesenteric artery with infarction or abdominal angina; 2. *superior mesenteric artery occlusion of duodenum:* satisfactory as far as it goes, but the right and middle colic branches may be the offending agents separately or with the parent artery; 3. *duodenal regurgitation:* this is especially bad because regurgitation within the duodenum and from the duodenum into the stomach can be normal[42], or be found with mechanical obstruction of the duodenum from any cause, or even with functional abnormalities; 4. *duodenal stasis:* this is especially poor because stasis is present in the decompensated stage of any mechanical obstruction, or even in the functional conditions, which indeed are much commoner than mechanical obstructions in the duodenum[31]; 5. *duodenal ileus:* this is probably the worst of them all. *Ileus,* from the Greek, means to twist. It has been extended to mean volvulus, severe colic due to intestinal obstruction, and when coupled with *adynamic,* to mean the silent paralytic state of the intestinal tract found in many conditions; 6. *arteriomesenteric occlusion of the duodenum (AOD),* preceded by the appropriate *acute, subacute, intermittent* or *chronic,* is probably the best name, with the sanction of long usage as contrasted with the possibly even more appropriate term, *angioneuromesenteric,* which acknowledges the possible role of the mesenteric vein and nerve, along with the artery, in the obstruction. "Megaduodenum" is merely a descriptive name, meaning big duodenum, although there has been a tendency to equate it with aganglionosis. Because of this confusion between the specific and generic meanings (cf. megacolon) it would be better not to use it.

Clinical History

The patient is typically a young adult, more likely female, with a long history of intermittent "bilious attacks", nausea, headache, vertigo, epigastric discomfort merging

*Associate Professor, Clinical Radiology, Medical College of Virginia.

into pain; these symptoms are followed by a day or so of vomiting and then relief. The attacks tend to recur after a period of relative well-being lasting from several weeks to months.

The many recorded case histories give one the impression of a relatively high incidence of women associated directly or indirectly with the medical profession, such as doctors' wives or nurses.[24,30,37,51] Indeed, both the cases of one report[51] fell into this category. If this impression can be proved valid, it might be explained by the more or less subtle pressures upon the medical attendants (clinician, radiologist, surgeon) to "produce" a socially and medically acceptable organic basis for the symptoms of one of their own circle.

The inordinate frequency of the single marital status of these women is on even more certain ground. For example, in nine females of one series [58], four were unmarried. Although this may be explained by assuming that the chronic disorders of these women render them unsuitable candidates for marriage, it is more likely, I believe, that unsuitability for marriage is just another manifestation of an unstable psychologic constitution (*v. infra*).

More or less serious psychogenic overlay to frank mental disease in patients with AOD receives frequent attention[6,52,57]: for example, such comments were made in three of four patients[4], three of 18[30], one of a series of one[33], one of two[36], and two of eight.[37] Slowing of the smooth muscle (as well as the striated) is well accepted in certain psychoses[16,45]. The possibility is real that at least some of the reported examples of AOD are psychoneurotic or psychotic with secondary effects on the smooth muscle of the gastrointestinal tract.

The prominence of cerebral symptoms, especially headache and vertigo, is noted. In the first quarter of this century when the theory of autointoxication ruled, these symptoms were explained on this basis. The "toxic" products were thought to originate in the stasis within the duodenum. Later, the new knowledge of electrolyte depletion took over, especially in those cases called acute *(v. infra)*. One of a series of five[23] had severe migraine since childhood. Indeed, the cerebral symptoms may be so prominent that a diagnosis of brain tumor or a typical neuralgia is suggested.[54]

The known relation between true migraine and abdominal pains (Alvarez) and the definite motor disturbances produced in the gastrointestinal tract in a patient with headache, migrainous or not[12], make it doubtful that these cases with headache looming large in the history were really AOD; they may be more logically explained as motor disturbances in the gastrointestinal tract secondary to migraine. The author has had severe headaches followed later in their course by vomiting of food eaten 12 or more hours previously.

It is striking that none of the "toxic" symptoms were found in the 31 cases of aganglionosis, a true duodenal stasis caused by congenital deficiency in the myenteric plexus.[1] This is additional evidence that the "toxic" symptoms that receive such prominence in the reported cases of AOD are probably primary and the motor disturbances in the gastrointestinal tract, secondary.

Summary of Comments on Clinical History

The possible peculiarities of marital status and occupation, the prominence of "toxic" symptoms (headache and vertigo), and the lack of these in true organically determined functional obstruction (aganglionosis), and the heavy psychic overlay, would exclude many of the patients reported as AOD as true examples of this syndrome.

Physical Findings

Patients with AOD are characteristically hyposthenic and lordotic. The former is associated with visceroptosis, commonly regarded as the determining factor in AOD. Lordosis plays an accessory role in further narrowing the "legs of the compass" (aorta posteriorly and superior mesenteric artery anteriorly) with the third portion of the

duodenum sandwiched between. Weight loss is said to be due to the patient's abstinence from food to avoid the customary postprandial distress.

The physical examination is otherwise usually normal in most patients with the subacute, intermittent or chronic variety of AOD.

Weight gain, as well as weight loss, has also been called a predisposing factor in the syndrome.[17]

Summary of Comments on Physical Findings

Scarcely a paper fails to indicate the importance of weight loss in the production of AOD, implying that a loss of the cushion of mesenteric fat exposes the duodenum to the occlusive effects of the aorticomesenteric compass. I agree that such a cushion of fat will reduce the *pressure* (force per unit area) by its distributive effect if *force* were unchanged. Force, however, probably increases because of the addition of any tissue, regardless of its consistency, into the angle of the vascular compass. Rather than the rare report of the importance of weight gain in producing this syndrome, we should expect many.

Pathophysiology

As already noted, the mechanism of AOD is an abnormally narrow angle between the aorta (and spine) posteriorly, and the root of the mesentery with its contents anteriorly. Any factors that narrow this vascular compass favor the development of the syndrome. The main acquired factors are: weight loss, loss of tone of the anterior abdominal musculature, and lordosis; the main congenital (and more important) factors are: visceroptosis, lordosis, and all varieties of shortened mesentery[2] and anomalous fixations of the gut, such as a well developed mesentery of the ascending colon[36,41], all these factors said to increase the drag on the superior mesenteric artery postero-caudad, thus narrowing the vascular angle.

Any physical maneuvers designed to widen this angle such as the knee-chest position, inward and upward pressure upon the lower abdomen, should effect relief. Although some patients volunteer relief with such maneuvers, most do not, nor obtain the theoretically probable striking relief when advised to perform them. In other well delineated diseases, patients often show an uncanny sense in ferreting out those simple physiologic aids that give them relief, such as head high and feet low in congestive cardiopathies, and the assumption of certain positions that tend to lessen the movement of opposing pleuritic surfaces. I believe that if the pathophysiology of AOD were so mechanically simple as herein indicated, many more patients would have saved themselves the long years of chronic ill health allegedly caused by AOD.

The rarity of mention of degenerative disease as a factor in the production of AOD is indeed striking, if its mechanism is such as we have described above. The only such reference I found was Case[13]: he quotes Brin and Deneschau who "cite an interesting case in which there was the added factor of atheroma of the superior mesenteric artery and a considerable augmentation of size of the mesenteric root". Occlusive disease in the chest (arteriosclerosis of the descending aorta posteriorly and cardiomegaly anteriorly), effecting obstruction in the esophagus with dysphagia, mild dilatation and hang-up of barium, is well documented in the literature of England.[32,44] It would be natural, therefore, to expect degenerative disease of the arteries to play a significant role in AOD, which apparently it does not. Note the young age incidence of AOD.

That AOD is not a purely mechanical syndrome receives some support in the literature.[4,23,24] For example, all the patients in one series[23] had stigmata of a neurovegetative disorder. Importance of fatigue and nervous strain in precipitating symptomatic episodes of AOD indicate that "neuro-muscular derangement" also is an important etiologic factor.[24]

Hence, any discussion of AOD leads perforce into consideration of *functional* dis-

turbance of the duodenum, by which many authors explain the clinical and radiologic picture of AOD that by others would be considered incontrovertible. Even in 1927, Bloom and Arens (quoted in ref. 67) represent the departure from the pure mechanical "party-line": they reported on 200 patients showing duodenal stasis, 50 of whom were operated upon. In 40 of these 50, an irritative focus was found near-by, such as gallbladder disease, duodenal ulcer, and appendicitis. Chronic duodenal stasis from mechanical obstruction of all varieties is, in their opinion, rare. Similar opinion was held by Widmann[74] two years later: "Duodenal irregularities, spasticities, dilatation and stasis, and obstruction are frequently associated with and sometimes produced by pathology in the adjacent viscera. The stomach, gallbladder, pancreas, colon, appendix, and lymph glands—in fact, almost any inflammatory condition in the abdomen—may cause chronic duodenal stasis."

Kamieth[31] in a fruitful discussion of the functional abnormalities of the duodenum reported on 50 patients with motility and tonus disturbances (34 spastic and 16 hypotonic) representing about 4% of his routine gastrointestinal material. Tonus changes were commonly found with disease in the neighboring organs, especially the biliary tree, but also at times in distant organs. (Table 1)

TABLE 1

Disease in Distant Organs		splinter in brain	1
Disease in Adjacent Organs	Stomach	organic (gastritis)	1
		functional	0
	Pancreas	organic	5
		functional	0
	Biliary tree	organic	24
		functional	15
Intrinsic Disease		duodenal ulcer	4

Even more extensive classifications of stasis (atonic and hypertonic) can be based upon etiologic factors[27], further subdivided into abdominal and extra-abdominal[43], and probable *locus* and *modus operandi* of these several factors.[20] The reader must consult these last four papers for details, but let it suffice that a wide variety of conditions can lead to a big duodenum in the absence of mechanical discontinuity of the lumen, and these are not unusual:

A. Viscero-visceral reflexes: gastro-duodenal inflammatory, calculous or neoplastic disease; inflammatory or neoplastic disease in the rest of the enteric tract, genital tract[67], urinary tract, thoracic organs; and even trauma.[26]

B. Toxic: certain drugs, such as cinchophen[67], phenylbutazone[59] and of course, morphine, especially in the stage of addiction when only the bulb or the entire duodenum may be dilated even with megacolon and megaesophagus.[27]

C. Central origin: epilepsy cured by ablation of cortical scar in parietal region[27]; migraine; certain psychoses.

D. Endocrine hypothyroidism (megacolon is noted in some of these patients as well); probably hypo-ovarianism and hypopituitary states.

E. Miscellaneous. avitaminosis (megaduodenum noted with megaesophagus in experimental beri-beri in the pigeon); porphyrinuria (primary and secondary to lead intoxication); acid-base disorders.

F. Unknown.

Because of the daily importance of ulcer,

biliary and pancreatic disease in the production of the big duodenum, these three will be discussed in detail:

1. Peptic Ulcer. A fantastically high association of gastic or duodenal ulcer, or gastritis, is reported with AOD: one of two cases[2,10,28]; two of six cases[24]; one of eight cases,[37] and one of four[70]. Similarly, a high association of ulcer with big duodena or duodenal stasis is found: 19 of 75 cases[76]; and, from a different point of view, 54 of 264 cases of duodenal ulcer were found to have partial mechanical obstruction near the duodenojejunal flexure.[65] Note, however, that 43 of these 54 patients had some other disease in the gallbladder, appendix, etc., but the final clinical recovery from ulcer in all these patients was so satisfactory following relief of the obstruction, that it was held this must be at least one of the causes of ulcer. The first theory, then, holds that all kinds of obstruction near the duodenojejunal flexure, including AOD, can cause peptic ulcer.

The second theory holds that ulcer predisposes towards AOD by the excessive motor activity of the duodenum incident to the ulcer working in the presence of an underlying tendency towards the occlusion.[7]

The third theory ascribes the dilatation of the duodenum bearing an ulcer to adhesions from this ulcer.[13]

The fourth theory holds that ulcer predisposes to AOD by causing the patient to lose weight.[70]

More convincing than any of the evidence that AOD causes peptic ulcer proximal to the vascular occlusion is the interesting patient presented by Bernard, et al.[3] This was a 48 year old female with an anomalous preduodenal portal vein compressing the anterior aspect of the first portion of the duodenum at its junction with the second. The bulb contained an 8 mm. ulcer that "may reflect the consequences of stasis". Although this vascular occlusion was an anomalous vein and not the superior mesenteric artery, the evidence is at least suggestive that the vein was a factor in the proximal (bulbar) dilatation of the duodenum, and a possible factor in the pathogenesis of the ulcer. Nevertheless, a primary duodenal ulcer causing reflex dilatation limited to the bulb, enhancing the previous dilatation from the occluding vein, remains a possibility that cannot be excluded.

That the ulcer is primary and the dilatation of varying increments of the remaining duodenum is secondary to the ulcer is strongly suggested by Paterson's findings[48]: In 855 barium meal examinations, two showed megaduodenum and 11 showed megajejunum, all 13 associated with peptic ulcer. Hence, AOD is excluded because the dilatation commonly extended into the jejunum. (See also ref. 29 and 55). Megajejunum, associated with ulcer, is not commonly identified by others, probably because minor degrees escape notice unless specifically sought. Even more cogent evidence is my (and that of others[75]) experience. The duodenum may vary from normal to greatly dilated on successive examinations done to follow the course of an ulcer, and even during the same examination; I have had, in addition, two patients that presented greatly dilated duodena at the operating table, but duodena of normal caliber on the preoperative radiologic studies: one was later found to have an intense gastritis and the other a duodenal ulcer. Both had the anlage for viscero-visceral reflex dilatation and it is entirely likely that the addition of a second factor, general anesthesia, was enough to make the dilatation so strikingly evident at the operating table.

2. Biliary tract disease. That biliary tract disease can be associated with functional duodenal dilatation has been well documented.[26,27] Gray and Garrett[25] indicate that AOD can produce a chain of symptoms much suggesting disease in the biliary tract. I cannot be certain how completely gallbladder disease has been excluded in those cases with clinical pictures suggesting this. Palpation at the operating table can not exclude stones of the smallest size; nor will the older techniques of radiologic explora-

tion.[15] Possibly more attention should be given to the functional disturbances of the biliary tree as revealed by the operative manometric techniques with radiologic control of Mallet-Guy and his school.[39] In an experience with 1300 patients over nine years, he had 55 with hypertony (29 with hypertony of the gallbladder, 26 with hypertony of the sphincter of Oddi) and 43 with biliary hypotony. Each of these two classes had a corresponding functional duodenal type: with biliary hypertony, the bulb may fill well, but small with irregular edges, even resembling an ulcer; the rest of the loop is of normal to small contour, with frequent vigorous to and fro peristalsis. With biliary hypotony, transit is slow because of lack of peristalsis in the duodenum; the bulb is larger than normal with regular edges; the loop shows a generally increasing caliber up to the third portion where there is stasis with dilatation. Just to the left of this the caliber suddenly becomes normal. Some of the obviously gastric symptoms of patients with gallbladder disease may be nicely explained by these reflex changes in the duodenum (and stomach). This functional relation between the gallbladder and duodenum is to be expected because of their close embryologic development.

There are still other signs of close relationship between the biliary tree and duodenum: a 49 year old woman with a stone in the common duct presented a radiologic "obstruction" in the third portion of the duodenum with gastric and duodenal retention during an acute attack.[22] After the attack, the gastrointestinal tract returned to normal.

A persistent air-fluid level in the duodenal bulb with the patient upright should put the examiner on his guard for disease in the biliary tree.[60] The level tends to persist even after the gallbladder disease subsides or after a cholecystectomy.[63]

Chocholác[14] presents interesting data on the mechanism of the functional relationship between biliary tree and duodenum. He believes that the proper amount of bile within the duodenum, as regulated by a properly functioning sphincter of Oddi, controls normal motor function of the duodenum, and, through the normal production of enterogastrone, controls the emptying time of the stomach. The functional disturbances (spasm, atony) of the sphincter are usually conditioned by diseases in surrounding organs, such as diseases in the biliary tree itself, gastrointestinal tract, pancreas, and certain drugs (morphine, chlorpromazine). When there is uncoordinated, insufficient bile in the duodenum, activity of the duodenum and the rest of the small intestine is inhibited, and gastric evacuation hastened (inadequate production of enterogastrone because of the bile insufficiency). Morphine leads to persistent spasm of the sphincter of Oddi for two to four hours, and the gallbladder under the influence of morphine does not empty even after a fatty meal. The tonus of the small intestine is lessened, and the peristalsis reduced. (Chocholác's figure 7 indicates clearly that the dilatation in the duodenum ends at the junction with the jejunum, a frequent physiologic "crossover point" in the matter of caliber.) A direct action of morphine on the intestinal wall is of course also likely.

The mechanism of the action of chlorpromazine on the duodenum is very different from that of morphine: whereas there is also a direct action on the wall, the reduced motility and hypotonia are related to the subnormal flow of bile conditioned by the hypotonia of the sphincter of Oddi, and the depressed secretion of bile by the liver cells. In contrast to morphine, which enhances the density of the contrast-filled gallbladder, chlorpromazine has no effect.

3. Pancreatitis. Functional changes in the duodenum are more common with acute than chronic disease in the pancreas. That such a functional relationship exists between the two organs is not unexpected because of the intimate embryologic development. Six patients of 43 barium meal examinations in acute pancreatitis showed dilated duodena and pooling of the medium; three patients

were found to have irritable duodena.[11] Two children with mumps presented radiologic findings in the duodenum that have come to be regarded as evidence of pancreatitis[47]: dilatation of the genu inferius, lively irregular fluctuations in tone, and strong pendulum motions in the descending duodenum. The barium falling down thru a narrowed descending duodenum with the patient upright into a widened genu inferius gives rise to the fanciful "water-can sign".

Persistent retrograde peristalsis in the third portion of the duodenum suggests neoplastic and other mucosal lesions in this segment as well as neoplastic and inflammatory disease in the retroperitoneal tissues.[61]

Although it has been suggested[75] that duodenal stasis causes the inflammatory disease in the neighboring organs (biliary tree, pancreas, ulcer) by stasis and ascending infection, the bulk of the evidence supports the opinion that the functional changes in the duodenum, so often reported as AOD, are viscero-visceral reflexes from primary diseases in these neighboring organs.

It has been repeatedly demonstrated that functional dilatation of the duodenum, while commonly ending at the point of crossing of the superior mesenteric artery, (thus often giving rise to the diagnosis of AOD), may stop short of this point or extend beyond. That a normal narrowing exists in this segment of the duodenum is well documented[8,13,22,29,31]; indeed, a physiologic sphincter may exist here.[26] Casts of postmortem duodena commonly show the impression of the superior mesenteric artery anteriorly, and at times those of its branches. Palpation of the pulsations of the superior mesenteric artery by a finger within the duodenum during surgery can not be considered abnormal. An impression upon the duodenum before dilatation has occurred will become even greater after dilatation. It is much more logical, I believe, to regard many of those cases reported as AOD as functional dilatation; the role of the superior mesenteric artery is circumstantial in the truest sense *(circumstare,* to stand around).

There is anatomic support for the differences in motor activity between the duodenum and the rest of the small intestine[26]: the duodenum has a characteristic ratio of the two types of intramural ganglion cells, the smaller multipolar cells and the larger cells with fewer or only one dendrite.

Summary of Comments on Pathophysiology

Functional dilatation of the duodenum is far commoner than dilatation from all mechanical causes (bands, adhesions, intrinsic and extrinsic tumor, AOD, etc.). Disease in the gastrointestinal tract itself, biliary tree, and pancreas is the commonest cause for such functional dilatation. Narrowing at the duodenojejunal segment and impression of the superior mesenteric artery upon the anterior surface of the duodenum are normal findings. This impression becomes deeper, the more the duodenum becomes dilated. It is this condition, I believe, that has given rise to most of the diagnoses of AOD made at the operating table, the role of the superior mesenteric artery being *circumstantial.*

Radiologic Findings

The diagnosis of AOD is primarily radiologic. Nevertheless, one reads: "roentgenograms cannot possibly demonstrate the condition except when a fair degree of duodenal dilatation has taken place. . . . All evidence. . . . must be fluoroscopic. . . ."[17] Further, "It must be remembered, also, that the absence of typical roentgen signs of arteriomesenteric occlusion of the duodenum during any given examinations is by no means definitely conclusive and does not serve to eliminate the possible existence of this syndrome."[24] In my opinion, any partially obstructive syndrome of the intestinal tract responsible for the patient's woes of many years should be expected to give radiologic findings certainly during the period of actual symptoms.

The usually accepted radiologic criteria of AOD are these[58]: vigorous to and fro motion of duodenal contents; dilatation of third part of duodenum with a sharp cut-off a little to the right of the spine; in the absence of frank dilatation, an abnormal distensibility[69]; regurgitation into the stomach with variable degrees of stasis in the duodenum and stomach.

Before these criteria can be accepted, normal findings in the duodenum must be determined. Although many of the earlier radiologists, as well as some of the later ones, were all aware that to and fro movements in the duodenum were normal[7,13,18,31,43,74], it is surprising how often this has been negated.[4,20,38,50] A narrowing of the lumen in the duodenojejunal segment and a mild "difficulty" of passage of the barium, especially in supine hyposthenic patients, are completely normal.[8,13,22,26,29,31,74]

Certain limitations of diagnostic radiology in the gastrointestinal tract, well known to radiologists, must be accepted. The differential diagnosis between dynamic and adynamic ileus of multiple, distended loops of small intestine, can still give the most experienced of us difficulty, even though an abnormal state is at once recognized. In the duodenum, however, there may be a considerable range of opinion concerning the presence or absence even of abnormality, let alone the type. For example, dilatation of the duodenum in routine gastrointestinal material may vary from 4 to 20% according to the criteria of the observer.[31]

Fanardshew (quoted by Petren[49]) indicated that even radiology has not led to a satisfactory solution of the problem of stenoses in the third portion of the duodenum. The radiologic distinction between functional and organic obstruction in the duodenum is very "delicate".[53] Dilatation considered mechanical (AOD) by radiology were later found due to cinchophen or ulcerative colitis[67], or cause completely unknown even following surgical exploration. Radiological findings of duodenal abnormality may be so indecisive that we are admonished to weigh the clinical history, physical signs including the bodily habitus, before reaching a decision.[74]

Changing the bodily position has been said to release the obstruction in AOD[17,34], and this release has been called of special diagnostic significance in the diagnosis.[17] It is more likely, in my opinion, to indicate an absence of clinically significant obstruction, and an example of those momentary stops incident to habitus.

Even the vigor of the writhing to and fro movements in the duodenum has been contrarily evaluated as a sign of organic vs. functional dilatation: the waves are "brutal" in mechanical obstruction[53]; in functional difficulties, they are more intense and persistent.[43]

Other more obvious limitations of radiology in evaluating a large duodenum may be mentioned: lesions in the gastrointestinal canal, biliary tree, pancreas, and other organs may be radiologically silent, thus with no support for the conception of functional dilatation. I have studied one such patient with an intense gastritis diagnosable only microscopically, and another patient who was found to have a bulbar ulcer only after several radiologic examinations. The intense interest in the dilated duodenum may direct the attention of the radiologist away from the more proximal reaches in an effort to demonstrate an obstructing factor distally.[48]

Although all radiologists insist on visualizing the actual details of an obstruction in the colon, for example, many are willing to diagnose a mechanical obstruction in the duodenum on little more evidence than stasis ending at a certain place that vaguely corresponds to the course of the superior mesenteric artery. Some illustrations in the literature purporting to show the abrupt cut-off of the duodenum are, I believe, just the impression of the right psoas muscle beneath.[30] A similar cut-off due to similar mechanism is well recognized in the dilated (and even normal) renal pelvis.

Roentgenograms attempting to show the beneficial effects of surgery would do well to be identical projections before and after.[24] An oblique view, for example, with "puddling" in the genu inferius, and some superimposition of the second and third portions of the duodenum may give rise to the impression of dilatation. Many of the illustrations in the literature purporting to show AOD are, in my opinion, consistent with a normal examination. Many of these, indeed, looked more normal than McLaren's et al.[42] figure 224 of a healthy subject: the duodenum is full, and even after 17 seconds no barium has passed the duodenojejunal segment.

A new and possibly fruitful method of radiologic study of functional disorders of the duodenum may well be use of the kymocassette.[64]

Summary of Comments on the Radiologic Findings

Recognition that many of the radiologic findings heretofore regarded as characteristic of AOD are normal is imperative. Unless radiologic details of intraluminal or extraluminal obstruction are clearly evident, it were better to consider the dilatation functional until proved otherwise. Functional dilatations are much more common than mechanical from all causes, including AOD.

Operative and Autopsy Findings

The frequent use of the words *apparent, presumably,* etc.[4,2570] in many of the operative descriptions of AOD is striking. I receive the impression that often the surgeon himself was not entirely convinced of his findings, and, *faute de mieux,* the superior mesenteric artery was implicated circumstantially (as already noted, it was *standing around).* The shortcomings of the surgical diagnosis of AOD and other lesions in the third portion of the duodenum have received repeated attention.[46,49,56,71,77] ". . . . experience shows that it is often difficult, or even impossible, to discover the cause of the affection [big duodenum] by operation".[46] And this from a surgeon: "It is by no means an easy matter to judge the size, shape, and character of the duodenum, due to the inaccessibility of the organ and its rather firm posterior fixation. It is, therefore, not surprising that the obstruction may be overlooked even by the most competent surgeon if a pre-operative diagnosis has not been made or suggested."[77]

Nor is the satisfactory post-operative course, even with prolonged follow-up, proof that the diagnosis of AOD was correct. Note that frequent improvement can follow surgery for almost anything, as, for example, a normal appendix; bed rest, good food, psychologic pampering[55], and even an endocrine boost incident to the surgical stress may all play a role.

Nor is post-mortem observation infallible. Petren's[49] detailed study of a patient in whom autopsy showed the mesenteric vessels dividing the duodenum into normal and abnormal segments, old tuberculous peritonitis, still led to no certain conclusion about the cause of the big duodenum. The limitations of autopsy is again demonstrated to the author by Wells's[73] case, presented as AOD but looking much like an example of acute gastric dilatation *(v. infra)* following a dietary indiscretion with rutabagas.

Summary of Comments on Operative and Autopsy Findings

Findings at the operating table are often indecisive because of the technical difficulties in examining the duodenum completely. A good post-operative course never proves a diagnosis. Even explanations of a large duodenum furnished by autopsy may be open to question because of the dynamic nature of AOD.

Treatment

Standard therapy of AOD is medical first, especially exercises to strengthen the abdominal muscles, lying prone or in the knee-chest position after small and frequent feedings, and surgery only if these conservative measures fail. Surgical measures are duodenojejunostomy, or mobilization of the

duodenum caudad[66] to relieve the duodenum from the pinch of the arterial compass.

Splanchnic block has been suggested to differentiate the functional from the mechanical dilatations of the duodenum.[27]

Psychotherapy has been suggested as adjunctive treatment in AOD[4], and as primary therapy in the spastic variety of functional aberration of the duodenum.[19]

Canlas[10] reports that medical management is needed after surgical treatment, and indeed, gives better results than surgical attack. Further, operation is to be avoided in the mild cases of AOD.[69] How odd are these statements, if AOD is a true mechanically determined occlusive syndrome!

Inadequate follow-up characterized the reports of many patients with AOD.[4,25,63] Further, this reviewer was impressed with the mildness of the improvement following treatment in many of the cases.

Summary of Comments on Treatment

There is widespread doubt that surgical measures alone suffice for treating AOD. This is incomprehensible: elsewhere along the intestinal tube, surgery for simple obstruction is a totally curative measure.

Is AOD a True Syndrome?

It must now be apparent that many, if not most, of the patients reported with AOD are very doubtful examples. Often the radiologic criteria used for making the diagnosis were normal findings. The many reported patients with associated ulcer can best be regarded as having a functional enlargement of the duodenum. Many patients reported with AOD had obvious associated disease, such as six of 11 cases with retroperitoneal disease.[30] One had a deficiency pattern in the small intestine.[25] It is impossible to determine how effectively disease in the surrounding (or distant) organs was excluded as potential factors in the big duodenum. It is at times difficult to exclude cases with certain congenital abnormalities that properly take them from the class of AOD, such as a fibrous mass in the mesenteric pedicle[72], local mesenteric abnormalities[2,36], and a thick peritoneal induration ensheathing the superior mesenteric vessels.[52]

Even after excluding the many doubtful examples of AOD, there remains a number of cases that must be considered authentic: Bonte's[8] 15 day old patient (but why did the child die despite surgical relief of the obstruction—"simply exaggeration of normal anatomy"?) ; Campbell's case[9] in a two year old; Prouty's first patient[50]; and probably several others as well. Nordentoft[46], obviously a skeptic regarding AOD, feels that certain definite cases have been reported in the Scandinavian literature [noted for its radiologic excellence—C.V.C.], and he does not agree with the other skeptic, Robertson[55] and others that AOD should be relegated to history. Nevertheless, Nordentoft's sage counsel that additional cases of megaduodenum should be collected and studied, and not dismissed with the ready explanation of AOD, should be followed.

Wilkie[75] was originally so enthusiastic about AOD that it came to be known as Wilkie's disease. If I interpret his later paper correctly[76], there is some disenchantment: many of his cases had recurrences, which he ascribed to lack of proper post-operative care, especially postural exercises. Nine of his 57 cases (duodenal obstruction from all causes) showed no improvement: these were the marked visceroptotics, some of whom had several previous operations. Surgery gave best results in those patients with a definite gross anatomic abnormality or gross pathologic process in the root of the mesentery. Where the duodenum was found dilated, but no very obvious obstructing cause [conforming with most of the cases reported as AOD?—C.V.C.], short-circuiting operation gave most uncertain results. And finally, arriving at the importance of the viewpoint of functional dilatation without so stating it, he claims that dilatation of the duodenum may apparently be present without any mechanical obstruction, for reasons yet unknown, and the drainage operation in this class of case is relatively ineffective.

Before this review is brought to a close, some comments are in order about acute gastric dilatation (or atony, or paralysis), which has been interpreted by some as the acute variety of AOD[30,35]; or which demands at least some degree of AOD for its development.[7] Other opinion, and I think correctly, holds that the condition is not readily explained by pressure of the mesenteric vessels[5], and that this and AOD are distinct entities.[23] Although the master surgeon Bloodgood's name has been constantly associated with AOD, he was writing[5] about acute gastric dilatation and felt that the pull of the mesentery did not explain the picture, especially in those cases where the dilatation extends into the jejunum. He supports his claim that this is not a mechanical obstruction by illustrating the very significant clinical differences between this and true high organic obstruction of the gut. He considered some toxic agent in a weakened patient the probable cause.

Robertson[55] and others divide the acute syndrome into five groups: 1. No apparent cause, even detectable after death; 2. Some definite lesion found elsewhere, such as pneunomia, typhoid, or other severe infection; 3. Some surgical procedure done under a general anesthetic; 4. Dietary indiscretion[21], and 5. Following an injury with or without application of a body cast (the cast syndrome). That the patient's course may continue to death, even though the cast has been removed[35], makes it unlikely that simple fixation in hyperextension with AOD is the primary cause.

Rather than a simple mechanical syndrome, acute gastric dilatation must represent a severe disturbance in the autonomic innervation of the stomach and of varying increments of the small intestine: motor activity is lost, and there is massive accumulation of gastric secretion. A similar condition has been produced experimentally[23] by interruption of the gastric autonomic nerves, exclusion of the intramural nervous system, and stimulation of gastric secretion by histamine.

Some of the patients in the first group have had an associated psychologic difficulty; one patient I studied had a schizoid aura.

It is my opinion that acute gastric dilatation is essentially different from AOD, and should not be discussed with it.

Conclusions

1. The prominence of "toxic" symptoms, of psychic overlay, of single marital status of the predominant females, the frequency of nurses and doctors' wives among the sufferers;

2. The prominence of functional dilatation, dependent upon disease in the surrounding viscera, such as peptic ulcer, gallstones, and pancreatitis;

3. The equivocal and inconstant radiologic pictures;

4. The shortcomings of surgery and autopsy as diagnostic measures;

5. The frequent lack of definitive cure following surgery for a supposedly mechanical obstruction syndrome, and the frequent need for adjunctive therapy, both psychotherapy and physical therapy;

All suggest the wide over-diagnosis of the syndrome, although some authentic examples probably exist.

6. Acute gastric dilatation should not be considered with AOD, but *sui generis*.

Bibliography

1. *Barnett, W. O., and Wall, L.: Megaduodenum Resulting from Absence of the Parasympathetic Ganglion Cells in Auerbach's Plexus. Review of the Literature and Report of a Case. Ann. Surg. 141: 527-535, 1955.
2. Berley, F. V., and Brown, R. B.: Arteriomesenteric Obstruction of the Duodenum. U.S. Armed Forces Med. J. 5: 1044-1052, 1954.
3. *Bernard, L. J., Perry, F. A., and Walker, M.: Preduodenal Portal Vein Causing Duodenal Obstruction with Bleeding Duodenal Ulcer. A Case Report. Ann. Surg. 150: 909-912, 1959.
4. Bitner, W. P.: Arteriomesenteric Occlusion of the Duodenum. Am. J. Roentg. 79: 807-814, 1958.
5. *Bloodgood, J. C.: Acute Dilatation of the Stomach — Mesenteric Ileus. Ann. Surg. 46: 736-762, 1907.
6. Bockus, H. L.: Chronic Duodenal Stasis. In-

termittent Arteriomesenteric Occlusion of the Duodenum with Dilatation and Stasis. Penn. M. J. 32: 618-627, 1929.
7. Bockus, H. L.: Gastro-Enterology. W. B. Saunders Company, Philadelphia. 1946. Vol. 2, pp. 67-70.
8. Bonte, G., Salembier, Y., and Dernoncourt, R.: Sténose duodénale par pince aortico-mésentérique chez un nourrisson de 15 jours. Arch. Mal. App. Digest. 41: 970-972, 1952.
9. Campbell, S.: Gastromegaly Due to Arteriomesenteric obstruction of the Duodenum. Lancet 2: 1190-1191, 1937.
10. Canlas, E. M.: Chronic Duodenal Ileus. Missouri Med. 51: 649-652, 1954.
11. Cantwill, A. V. and Pollock, A. V. Radiology of Acute Pancreatitis. J. Fac. Rad. 10: 95-99, 1959.
12. Carstairs, L. S.: Headache and Gastric Emptying Time. The Year Book of Radiology. 1959-1960 Series, page 186.
13. Case, J. T.: Chronic Obstruction of the Small Intestine. Radiology 9: 1-14, 1927.
14. *Chocholác, J.: Zur Funktion des Sphinkter Oddi und der Motilitaet des Duenndarms. Fort. auf dem Geb. Roentgenstr. 92: 312-325, 1960.
15. Cimmino, C. V.: Experiences with the Upright Fluoroscopic Spot-Film Examination of the Gallbladder. Radiology 67: 74-78, 1956.
16. Cimmino, C. V.: The Fatty Meal in Oral Cholecystography. Am. J. of Digestive Dis. 4: 159-170, 1959.
17. Cunha, F. and Day, B. M.: Duodenal Stasis Caused by an Aberrant Superior Mesenteric Vessel. Am. J. Gastroenterol. 21: 121-130, 1954.
18. *Doub, H. P.: Editorial: Chronic Duodenal Stasis. Radiology 10: 259-260, 1928.
19. Dubarry, J. J.: Dyskinésie Duodénale et Vomissements Névropathiques. Arch. Mal. App. Digestif. (supp.) p. 370-371, Nov. 1951.
20. *Fisher, H. W.: The Big Duodenum. Am. J. Roentg. 83: 861-875, 1960.
21. Franzin, J.: Magen- und Zwoelffingerdarmlaehmung als Begleitsymptom akuter Pancreatitis. Fort. auf dem Geb. Roentgenstr. 84: 184-187, 1956.
22. Galambos, A.: Duodenal Obstruction as Reflex Phenomenon during Choledochus Stone Impaction. Am. J. Dig. Dis. 21: 19-27, 1954.
23. Geissendoerfer, R.: Beitrag zum sogenannten arterio-mesenterialen Duodenal-verschluss. Deut. Med. Wschr. 77: 483-487, 1952.
24. Goin, L. S. and Wilk, S. P.: Intermittent Arteriomesenteric Occlusion of the Duodenum. Radiology 67: 729-737, 1956.
25. Gray, H. K. and Garrett, C. M.: Obstruction of the Duodenum beyond the Ampulla of Vater: A Possible Cause of Symptoms Suggesting a Disease of the Biliary Tract. Ann. Surg. 142: 532-536, 1955.
26. Hammer, F.: Bedeutung der Dysfunktion der Duodenalschlinge. Wien. Med. Wochschr. 105: 508-510, 1955.
27. *Hillemand, P. & Dugue, M.: A Propos du Mégaduodénum. Essai de Classification et Pathogénie. Arch. d. mal. de l'app. digestif. 36: 129-154, 1947.
28. Huelshoff, Th.: Arterio-mesenteriale Duodenalkompression. Muench. Med. Wochschr. 100: 1343-1345, 1958.
29. Jaeger, E.: Untere Duodenalstauung. Med. Monatsschrift. 3: 583-586, 1949.
30. Kaiser, G. C., McKain, J. M., and Shumacker, H. B.: The Superior Mesenteric Artery Syndrome. Surg., Gynec. & Obst. 110: 133-140, 1960.
31. *Kamieth, H.: Funktionelle Stoerungen des Duodenums. Fort. auf dem Geb. Roentgenstr. 88: 406-414, 1958.
32. Keates, P. G., Magidsen, O.: Dysphagia Associated with Sclerosis of the Aorta. Brit. J. Rad. 28: 184-190, 1955.
33. Kettenbach, E. L. and Palumbo, L. T.: Arteriomesenteric Duodenal Compression: Surgical Treatment. Arch. Surg. 62: 145-149, 1951.
34. Kopp, E. and Bivetti, J. M.: Die arteriomesenteriale Duodenalstenose. Gastroenterologia 89: 170-173, 1958.
35. Leucutia, T.: Editorial: The Cast Syndrome. Am. J. Roentg. 64: 1013-1016, 1950.
36. Licht, E.: Arteriomesenteric Obstruction of the Duodenum in Adult Life and Adolescence. Acta Rad. 45: 441-451, 1956.
37. Lontok, R. M. and Taber, K. W.: Arteriomesenteric Duodenal Occlusion. Penn. Med. J. 62: 1529-1533, 1959.
38. Lu, J. L. and Cole, G. M.: Chronic Duodenal Ileus Due to Chronic Arteriomesenteric Occlusion. Arch. Surg. 73: 1022-1025, 1956.
39. *Mallet-Guy, P., Blondet, P., and Nefussy, J.: L'État Fonctionnel du Duodénum dans les Dystonies des Voies Biliares (Étude Radiologique). J. de Radiologie & Elec. 32: 813-815, 1951.
40. McClenahan, J. E., and Fisher, B.: Idiopathic Megaduodenum: Report of a Case. Am. J. Dig. Dis. 15: 414-416, 1948.
41. McGehee, J. L. and Anderson, W. D.: Chronic Obstruction and Dilatation of the Duodenum. Ann. Surg. 105: 741-749, 1937.
42. McLaren, J. W., Ardran, G. M. and Sutcliffe, J.: Radiographic Studies of Duodenum and Jejunum in Man. J. Fac. Rad. 2: 148-164, 1950-51.
43. *Mottironi, G.: Étiologie et traitement des stases duodénales. II. Étiologie des stases duodénales. Gastroenterologia 88: 31-51, 1957.
44. Mucklow, E. H., Smith, O. E.: Dysphagia and Unusual Radiographic Appearances Associated with the Variable Relationships of the Aorta and Lower Esophagus. J. Fac. Rad. 6: 88-95, 1954-55.

45. Muncie, W.: Psychobiology and Psychiatry. A Textbook of Normal and Abnormal Human Behavior. C. V. Mosby Company, St. Louis, 1939. pp. 248-9.
46. *Nordentoft, J.: Two Cases of Megaduodenum. Acta Rad. 18: 722-732, 1937.
47. Pannhorst, R.: Funktionelle Roentgenzeichen am Duenndarm bei epidemischer Parotitis. Fort. auf dem Geb. Roentgenstr. 87: 329-334, 1957.
48. Paterson, D. E.: Duodenal and Jejunal Ileus Associated with Duodenal Ulcer. Brit. J. Rad. 31: 332-334, 1958.
49. *Petrén, G.: Ein Fall von Megaduodenum nebst einigen Bemerkungen ueber die Genese und Klinik der chronischen Duodenaldilatationen. Acta Chir. Scand. 77: 307-325, 1936.
50. Prouty, M., Waskow, W. L.: Duodenal Compression of the Mesenteric Artery. J. Pediatrics 50: 734-737, 1957.
51. Ramagosa, A. and Menville, L. J.: Chronic Intermittent Arteriomesenteric Occlusion of the Duodenum. Rad. 57: 63-65, 1951.
52. Ratzen, E.: Concomittant Arteriomesenteric Obstruction of the Duodenum and Chronic Esophagitis. Case Report. Acta Rad. 37: 369-373, 1952.
53. *Reboul, J., Delorme, G., Bouyssou, P., and Coulon, H.: Considérations Etiopathogéniques et Radiologiques sur les Stases Duodenales Fonctionelles. J. de Radiologie et d'Elect. 36: 316-322, 1955.
54. Reichert, F. L.: Chronic Duodenal Stasis. A Syndrome with Neurological Symptoms. Cal. and West. Med. 49: 37-42, 1938.
55. *Robertson, G.: Acute Dilatation of the Stomach and Intestinal Tube with a Consideration of "Chronic Duodenal Ileus". Surg., Gynec. & Obst. 40: 206-213, 1925.
56. Rodinò, D.: Stasi duodenale atonica e duodeno mobile. La Riforma Med. 63: 433-442, 1949.
57. Roodenburg, A. I., and Bodon, G. R.: Obstruction of the Third Part of the Duodenum Caused by Compression by the Superior Mesenteric Blood Vessels. N. Y. State Med. J. 53: 2692-2693, 1953.
58. Rosenburg, S. A. and Sampson, A.: The Syndrome of Mesenteric Vascular Compression of the Duodenum. Report of Eleven Cases with Operative Correction. Arch. Surg. 73: 296-304, 1956.
59. Sarrazin, M. A.: Méga-estomac au Cours d'une Néphrite Anurique. Arch. Mal. App. Digestif. 44: 785-787, 1955.
60. Schaaf, J. and Wilhelm, G.: Die Niveaubildung im Bulbus als Sekundaerzeichen von Nachbarschaftserkrankungen des Duodenums. Fort. auf dem Geb. Roentgenstr. 85: 543-551, 1956.
61. Shapiro, R.: Fluoroscopic Sign of Pancreatic Disease. Am. J. Dig. Dis. 2: 387, 1957.
62. Shrum, R.: Duodenal Obstruction due to Pressure of Superior Mesenteric Vessels. J. A. M. A. 148: 550-551, 1952.
63. Shumway, M., Uhler, W. M. and Davis, P. L.: Compression of the Duodenum by the Superior Mesenteric Artery. Penn. Med. J. 56: 816-817, 1953.
64. Sielaff, H. J.: Gastro-intestinale Funktionsdiagnostik mit der Kymo-Kassette. Fort. auf dem Geb. Roentgenstr. 88: 414-422, 1958.
65. Sloan, E. P.: Partial Obstruction at Duodenojejunal Junction as Cause of Ulcer of Duodenum. J. A. M. A. 80: 977-978, 1923.
66. Strong, E. K.: Mechanics of Arteriomesenteric Duodenal Obstruction and Direct Surgical Attack on Etiology. Ann. Surg. 148: 725-730, 1958.
67. *Sturtevant, M.: Megaduodenum and Duodenal Obstruction. Radiology. 33: 185-188, 1939.
68. Tapiovaara, J. and Siurala, M.: Functional Disturbances of the Stomach and Duodenum in Gallbladder Disease. Acta Med. Scand. 161: 257-263, 1958.
69. Telford, D.: Chronic Arteriomesenteric Duodenal Ileus. J. Int. Coll. Surgeons 15: 129-135, 1951.
70. Tyson, W. T., Jr., and Keegan, J. M.: Duodenal Obstruction Due to Compression by Superior Mesenteric Root. J. A. M. A. 165: 1665-1668, 1957.
71. Uncapher, R. P., and Holder, H. G.: Megaduodenum in the Adult. Report of a Case. Am. J. Roentg. 77: 634-638, 1957.
72. Wahren, H.: Arterio-mesenteric Obstruction. Acta Chir. Scand. 90: 377-381, 1944-1945.
73. Wells, A. H.: Clinical-Pathological Conference. Minn. Med. 27: 822-824, 1944.
74. Widmann, B. P.: The Roentgen-Ray Diagnosis of Chronic Duodenal Stasis. Penn. Med. J. 32: 631-635, 1929.
75. *Wilkie, D. P. D.: Chronic Duodenal Ileus. Brit. J. Surg. 9: 204-214, 1921-22.
76. *Wilkie, D. P. D.: Chronic Duodenal Ileus. Am. J. Med. Sci. 173: 643-649, 1927.
77. Wolfer, J. A.: Chronic Duodenal Obstruction. Radiology 9: 39-42, 1927.
* Indicates especially useful references.

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Management of Complex Facial Injuries

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Every practicing doctor of medicine is called upon at times to treat the patient who has suffered facial injuries. The prevention of permanent disfigurement of the face and serious disturbances of function frequently depend on primary treatment of such injuries.

THE DENTAL LABORATORY WITH THE SERVICES OF TRAINED TECHNICIANS OFFERS INVALUABLE AID TO THE OTOLARYNGOLOGIST IN CARING FOR FACIAL INJURIES OF A COMLEX NATURE.

THE PATIENT who sustains severe facial injuries frequently has been subjected to forces causing soft tissue and bony injury in other parts, further complicating the management of the facial problem. Conversely, the patient who sustains multiple body injuries may have facial injuries which are overlooked. The term Complex Facial Injuries, as used here, refers primarily to multiple fractures of the facial skeleton and extensive soft tissue facial injuries.

The general surgeon, the otolarnygologist, the neurosurgeon, the ophthalmologist and the dentists may be called on to manage the patient with facial injuries. Unquestionably, the general surgeon is best equipped from the standpoint of training and index of suspicion, derived from daily contact, to manage the individual with mutiple body injuries. The orthopedist, neurosurgeon and otolaryngologist,[1,2,3,4] are frequently called upon to assist or to assume responsibility for management of the patient as determined by the location and type of injury. (Fig. 1)

Fig. 1A. Partial avulsion of nose; trap-door flap—left cheek.

Fig. 1B. No functional impairment. Fine scar left nose and cheek.

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The principles of treatment of multiple fractures: definitive treatment, particularly in the presence of compound wounds, is carried out promptly whenever possible. In the presence of multiple fractures, blood replacement, therapeutic (Fig. 2) or prophylactic tracheotomy, massive antibiotic therapy and a detailed general examination are of prime importance. An important adjunct frequently overlooked for management of soft tissue injury is the PRESSURE (BURN TYPE) dressing which accomplishes control of soft tissue hemorrhage and swelling, improves blood supply by preventing venous stasis and provides stability to soft tissues. (Fig. 3) The pressure dressing is imperative when skin has had to be trimmed and replaced. With full thickness free graft or where other grafting procedures are done, the pressure dressing is mandatory.

Fig. 2A. Comminuted fracture of right zygoma; comminuted compound fracture of nose. Complete respiratory obstruction following unconsciousness and bleeding. Alertness on part of general surgeon and prompt tracheotomy resulted in survival.

Fig. 2B. Following correction of nose and zygoma injuries.

Fig. 3. One of sixteen from head-on collision. Meticulous subcutaneous closure after extensive undermining, use of pressure dressings, etc. gave result seen in Fig. 9A and Fig. 9B.

In cases where soft tissue and bony facial injury must await correction of blood volume and stabilizing of the patient's general condition, decreased scarring is promoted by appropriate dressings.

Interdental eyelet wiring, or more commonly, use of prefabricated arch bars, for example, the Ehrich arch bar and elastic band intermaxillary traction are of considerable aid. In the presence of multiple fractures, however, permanent fixation and proper alignment of combined fractures of the maxilla, nose and zygoma or combined fractures of the maxilla and mandible call for

other techniques in conjunction with and sometimes separately from the use of wiring or the use of arch bars.

Where there are COMBINED maxilla and mandible fractures, the first consideration is restoration of dental occlusion.[5] In cases of this type, it is our policy to obtain impressions of the dentition and to make a cast of the upper and lower teeth mounted in an articulator. In fact, this can be of assistance in cases of multiple fractures of the mandible alone. The articulated model is an aid in determining the occlusion, which is finally established in the oral cavity by means of surgery. Mandibular fractures are reduced and immobolized first by whatever means indicated, whether interosseous wiring, banded retention splint, or other intraoral or external appliances. The mandible can then serve as a guide in restoration of the maxillary parts. The teeth of the mandible are forced against those of the maxilla by means of intermaxillary bands. Direct wiring from the intraoral appliances to the zygoma may then be carried out. Where the zygoma is involved in the fracture, the wire may be carried to the frontal bone,[5] in back of the zygomatic process. Rarely, a head cap may be necessary.

Middle third facial fractures are less complicated when the mandible is not involved. However, the same principles previously outlined are still valid.

The principle of immobilizing the maxilla with restoration of the normal relationship to the mandible is of prime consideration.

In cases where the zygoma is simply impacted but not comminuted, correction may be carried out by open reduction with direct interosseous wiring; this is the best method when associated with complex facial fractures. The suspension method and, at least in the hands of the otolaryngologists,[7] the simple transantral method gives good results.

Case Reports

Case 1. This thirty-two year old colored male was admitted to the emergency room of the Lynchburg General Hospital in acute distress, totally uncooperative and thrashing around on the stretcher.

Examination by the general surgeon revealed multiple lacerations of the frontal and periorbital areas with comminution and depression of the frontal bone. There was epistaxis with cerebrospinal fluid present in the blood from the nose. The eyes were not visible because of the marked periorbital swelling. The entire frontal area was involved in a comminuted depressed fracture. There were multiple tears in the dura through which blood and some cerebral cortex were seen. Both maxilla were "floating" along with the nose and infraorbital rims in a bilateral LaForte II fracture.

Whole blood replacement was begun; one hour after being admitted, the patient's general condition was satisfactory for general anesthesia and the emergency operative procedures were begun.

The frontal area was exposed through the lacerations, skin flaps were developed and turned back. Fragments were returned to place and loose smaller fragments were removed. A large portion of the anterior skull vault was devoid of bony support. Clots of bone fragments were cleaned and the drain was inserted and brought out through the left eyebrow to drain the frontal sinuses.

A tracheotomy was carried out. The patient's postoperative condition was fair.

Following stabilization of the patient's condition, correction of the bilateral fractures of the maxilla was carried out under general anesthesia via the tracheotomy tube. The extensive fracture of the frontal sinuses and frontal bone precluded the use of a head cap or wiring to the frontal bone.

A Kirschner wire was placed through a fine incision in the skin over the right zygoma and passed through the right upper jaw, nose and left upper jaw and brought out through the opposite zygoma. An additional Kirschner wire was placed immediately adjacent for further support.

Ehrich arch bars were applied.

020 Baker dental wire was put through a spinal needle through the left cheek, through the buccogingival sulcus and around the upper arch bar at the level of the second molar. This was passed through the needle

Fig. 4. Deformity following compound comminuted fracture of frontal bone. Satisfactory reconstruction of occlusion and upper jaw position, following bilateral LaForte II.

and out through the cheek. A similar procedure was carried out on the opposite side. These wires were twisted around the Kirschner wires on each side, using cork to protect the skin. Intermaxillary bands were applied.

Repeat examinations, clinically and by x-ray, revealed satisfactory reconstitution of the alignment of the maxilla, bilaterally. Satisfactory dental occlusion was established.

The patient developed a gross deformity of the frontal area and was readmitted to the Lynchburg General Hospital for correction of the frontal defect of the skull on January 27, 1960. (Fig. 4) On the day of admission, an impression was taken of the defect and a positive impression model made out of dental stone for determination of the exact size and shape of the graft.

On January 29, 1960, a cranioplasty was carried out by the junior author. The orthopedic surgeon obtained a very satisfactory graft from the left ilium. This was shaped to OVER CORRECT the defect in the right frontal area.[8]

A bitemporal flap was used for exposure of the defect. (Fig. 5) The bone graft was

Fig. 5. Bitemporal flap elevated for exposure of defect at time of cranioplasty.

shaped using rongeurs and the Stryker unit with pencil burrs. The graft was wired in place and the wound closed; a pressure dressing was applied and changed daily for one week. No fluid formed under the flap. The patient was discharged in satisfactory condition (see photograph) on February 10, 1960. (Fig. 6)

Fig. 6. Following cranioplasty.

Case 2. A twenty-one year old white female was riding in the front seat of a car involved in a collision accident with a truck. One of us was called to see the patient about a "broken nose". Examination revealed the presence of a bilateral fracture of the maxilla and nose with marked displacement posteriorly and inferiorly. On the right, the fracture was of the LaForte II class and on the left, LaForte I. There was depression of the nose. The patient had a marked open-mouth bite. (Fig. 7)

Fig. 7. Mouth is closed as much as possible, demonstrating open-mouth bite. LaForte II fracture of right maxilla. LaForte I fracture of left maxilla.

Under local anesthesia on 6/1/59 Ehrich arch bars were applied in the usual manner. The fracture could not be reduced manually and intermaxillary bands were applied to the arch bars. On the evening of operation examination revealed satisfactory occlusion to have taken place.

On 6/2/59, under local anesthesia, incisions were made over the infraorbital rim bilaterally and over the zygomatic portion of the frontal bone bilaterally. Using the Stryker pencil unit with a cutting burr, an opening was made in each infraorbital rim (well laterally on the right side). Similar incisions and openings were made in the frontal bone above the zygomatic frontal suture line.

020 Baker dental wire was passed through each opening and these wires passed from the infraorbital rim to the arch bars under the soft tissues of the cheek. The wire from the frontal bone was passed behind the zygomatic arch and to the arch bar posteriorly, bilaterally. The incisions were closed with subcuticular 00000 white silk, 000000 black silk to the skin. The nose was corrected.

Clinical and x-ray examination confirmed satisfactory realignment of the nose and maxilla. Satisfactory realignment and excellent occlusion were obtained. (see photographs. (Fig. 8 and 8A)

Case 3. A collision between a station wagon and an automobile on 3/22/59 resulted in admission to the Lynchburg General Hospital Emergency Room of sixteen passengers from the accident. This resulted in the Hospital's disaster program being put into effect under the direction of the general surgeon and the hospital administrator. Two of the sixteen injured unquestionably owe their survival to the efficient implementation of the disaster program by the general surgeon in charge and the hospital administrator.

Among those injured was a twenty-three year old colored male who was sitting in the front seat of the station wagon. The patient was in shock when brought to the emergency room and received two units of blood there. A dislocated hip was promptly reduced. There was an extensive wound of the face with extensive trapdoor laceration, involving the upper helix of the left ear, the masseter, parotid gland extending through the corner of the mouth on the left, exposing the teeth. (Fig. 3) The parotid duct was exposed but not severed. There was no motion of the left side of the fact except the area innervated by the ramus mandibularis.

The left eye was lacerated and could not be saved.

There was congenital absence of both upper extremities.

The patient was taken to the recovery room for observation until his general condition stabilized.

The ophthalmic surgeon carried out enucleation of the left eye, and following this, one of us carried out the repair of the extensive lacerations of the left face as follows: the helix of the left ear, separated from the skull, was closed; the inner (buccal) surface of the cheek was closed with interrupted mattress sutures of 000 chrome catgut. The deep structures, including masseter, zygomatic and other facial muscles were meticulously approximated in anatomic position,

Fig. 8A. X-ray demonstrating internal wiring—Case No. II.
Fig. 8B. Correction carried out by intermaxillary fixation, using arch bars, these being stabilized by wiring to frontal bone bilaterally and infraorbital rims.

care being taken to preserve the integrity of the parotid duct.

Wide undermining was carried out, as in a face-lift, above and below the wound. The skin was approximated with 0000 chrome catgut in the subcuticular layer. 00000 interrupted silk sutures were used to close the skin, vermillion border and lip.

The patient showed remarkable ability to adjust to further disability, having been born with the absence of both upper extremities. Because of the peripheral location of the facial nerve branches, meticulous anatomical closure was done without identifying the numerous ramifications.[9] The patient now has excellent motion on both sides of the face. (Fig. 9A) He has returned to his career as a professional singer with satisfactory cosmetic results. (Fig. 9B)

Fig. 9A. Demonstration of return of facial nerve function (see Fig. 3) following extensive soft tissue injury.

Summary and Conclusions

The principles of management of complex facial injuries are reviewed. Diagnosis is seldom a problem and most emergency phases of treatment are well known. Pressure dressings in the patient in poor condition or who must be referred for definitive

Fig. 9B. Scar extending from left helix through angle of mouth.

treatment, prevent complications and diminish scarring. The unconscious patient with a nosebleed may be lost and tracheotomy should be kept in mind.

Soft tissue repair requires meticulous deep and subcuticular closure for optimum functional and cosmetic results. A knowledge of techniques of tissue transplantation is helpful.

The management of the patient with multiple body injuries requires the whole patient approach, exemplified by the general surgeon.

Restoration of the contour of the mandible and establishment of occlusion by the otolaryngologist is a team affair. The laboratory assistance of competent dental technicians can be valuable.

The prevention of permanent disfigurement of the face and serious disturbances of function frequently depend on primary treatment of complex facial injuries.

Bibliography

1. Fitz-Hugh, G. S. and Gorman, J. B.: Management of Recent Midfacial Fractures. Virginia M. Monthly March 1959.
2. Gorman, Jas. R.: Injuries to the Eye as Encountered in Industry. Railway Surgeon's Association, New York Meeting, October 1941.
3. Kazanjian, V. H.: Primary Care of Injuries of the Face and Jaws. Surg. Gynec. & Obst. 72: 431, 1941.
4. Woodward, F. D. and Fitz-Hugh, G. S.: The Management of Recent Maxilla and Mandible Fractures. Virginia M. Monthly, 1942.
5. McIndoe, A. H.: Surgical and Dental Treatment of Fracture of Upper and Lower Jaws in Wartime. Proc. Roy. Soc. Med. 34: 267, 1941.
6. Adams, William: Internal Wiring in Facial Fractures. Surgery 12: 523, 1942.
7. Bennett, Truett: Midfacial Fractures. South. M. J. Nov. 1956.
8. Dingman, R. O.: The Use of Iliac Bone in the Repair of Facial and Cranial Defects. Plast. & Reconstruct. Surg. 1950.
9. Lathrop, F. D.: Management of Traumatic Lesions of the Facial Nerve. Arch. Otolaryng. 55: 410, 1952.
10. Coleman, C. C.: Fracture of the Skull Involving the Paranasal Sinuses and Mastoids. J.A.M.A. November 1937.

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Heals 'Swimmer's Ear'

A new acetic acid solution was recommended today for the treatment and prevention of "swimmer's ear," an inflammation of the outer ear caused by bacteria or fungi.

Writing in the February 4th Journal of the American Medical Association, Dr. Ben H. Jenkins, Newnan, Ga., said the solution combines the time-proved anti-fungal properties of acetic acid and the disinfecting and drying action of alcohol.

The solution (VosoL Otic) produced "entirely satisfactory results" in 200 patients. The condition was considered "completely cured" after four to six days in most cases.

Of the 200, 146 had acute new cases not previously treated and 54 had received other medication without satisfactory response.

The solution had several advantages over antibiotics and other drugs. The use of antibiotics and sulfonamides can be followed by the development of antibiotic and sulfonamide-resistant bacteria, and other drugs may suppress the symptoms without curing the infection.

Dr. Jenkins said he also instructed a number of other patients who previously had swimmer's ear to use the preparation routinely after swimming as a preventive measure. Not one patient with a history of swimmer's ear—some over a period of five years—has had to be treated for this condition again.

Radiation Proctosigmoiditis

A Case Report

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The gastrointestinal tract is vulnerable to injury from radiation. A case of such injury is presented and its occurrence discussed.

THE TERM "Factitial Proctitis", was first given by Buie[1] in 1930 to describe the pathological reactions produced in the wall of the rectum as the result of extra-rectal application of radium and Roentgen therapy. As early as 1897, two years after Roentgen discovered the x-rays, Walsh[2] reported the occurrence of flatulency, colic, and diarrhea in a patient who had been working with x-ray machines.

In recent years more malignancies of female pelvic organs are being diagnosed by screening cytological examinations, and this increases the number of patients who are being treated by radiation therapy. The incidence of injury to the gastrointestinal tract as a result of this radiation therapy varies from author to author, ranging from 2.1% to 17%.

Many cases have been reported in which the pathological changes and symptoms appear several years following radiation therapy. The interval between end of treatment and onset of symptoms varies from case to case. Colcock and Hume[3] of Lahey Clinic reported 41 cases of serious injuries to the gastrointestinal tract seen between 1935 and 1957. In this series the earliest case was seen within two weeks, and the latest three years after receiving radiation.

In 71 cases Fabrikant[4] et al. found that the majority were within the six months period (33.7%), but that 4.2% had their first symptoms after 10 years, with one patient not presenting her first symptoms until 20 years following radiation.

Simpson and Spaulding[5] report a case of small bowel obstruction and fistula of ileum and bladder which appeared 14 years after radiation therapy, and a second case in which ulcer and hemorrhage in the colon showed up nine years after treatment.

The most common symptom is rectal bleeding which is moderate in the majority of cases. Tenesmus and mucous diarrhea follow in frequency, with stenosis and obstruction being a common complication. Fistula and perforation are also relatively frequent problems. Severe hemorrhage which requires multiple transfusions and surgical intervention occurs only rarely.

Many of these cases can be satisfactorily managed on a medical regime, although some complications require surgical management. The surgical treatment frequently required is a preliminary defunctioning colostomy. Chanin and McElwain[6] advise a waiting period for definite surgical treatment until all evidence of proctitis subsides. In some cases it may require two years to close a diverting colostomy to obtain a good post-operative result.

Case Report

The patient is a 69-year old white female admitted for the first time to St. Elizabeth's Hospital, Richmond, Virginia, on March 9, 1960, to the surgical service of Dr. Guy W.

NAKAMURA, YASUSI, M. D.: *Surgical Resident at St. Elizabeth's Hospital, Richmond, Virginia, 1959-1960.*

Horsley, complaining of 10 to 15 loose bloody stools each day. She had no nausea, vomiting, or pain, and had enjoyed good health until 1946, at which time she was given 1400 mg. hours of radium into the cervix for treatment of postmenopausal vaginal bleeding and cervical erosion. For the next 12 years she did very well and had no symptoms. In 1958 she began to have diarrhea characterized by 8 to 12 painless watery stools daily. The presence of mucus was also noted. The frequency was more apparent in the early part of the morning. There was no food intolerance, nor did emotional disturbance affect the symptoms. From the onset to a few weeks prior to admission to this hospital, she was treated basically with antispasmodics, special diet, and paregoric with little or no relief.

In the early part of September, 1959, she had again noted vaginal bleeding. A diagnosis of low grade carcinoma of the cervix was made. Immediately 2400 mg. hours of radium was given into the cervix followed by x-ray therapy which was given to the pelvis in a total dose of 4800 r from September 21, 1959, to October 16, 1959. Her diarrhea remained unchanged during this time and for the two months following radiation therapy. In December, 1959, for the first time rectal bleeding was noted. Small amounts of bright red blood mixed with mucus were seen in each evacuation without tenesmus, nausea, or vomiting.

In February, 1960, a barium enema done elsewhere disclosed a stenosing lesion of the large bowel. She was advised not to be operated upon unless complete obstruction should occur. All of her symptoms persisted, and she had lost 20 pounds since the onset of diarrhea two years prior.

The physical examination was not remarkable except for generalized pallor, skin discoloration in the lower part of the abdomen from x-ray therapy, and some degree of induration of the upper part of the vagina. Digital rectal examination was negative.

Her blood count, urinalysis, NPN, PSP, and blood sugar were normal. EKG and chest films were also negative. Barium enema x-ray was reported: "The colon and terminal ileum readily filled. In the lower or mid-sigmoid area there is an irregular annular deformity extending for approximately 10 to 12 cm. (Fig. 1). The lumen of this

Fig. 1. Barium enema x-ray study showing stricture in the sigmoid colon.

portion of the bowel is reduced to approximately 1 cm. in diameter and was not seen to expand. Inflammatory changes were suggested."

On March 9, 1960, through a long left rectus incision, the peritoneal cavity was entered. A moderate amount of yellowish intraperitoneal fluid was found, especially in the area of the pelvis. An indurated mass in the lower sigmoid and multiple adhesions of this organ to the pelvis and the small bowel were found. The lesion was located about 3 cm. above the peritoneal reflexion. A segment of about 25 cm. of large intestine (descending and sigmoid) was resected and primary colorectostomy was carried out.

Her postoperative course was uneventful. On her 4th postoperative day she began to

pass liquid stools with no gross bleeding and very small amounts of mucus. She was dismissed on her 14th postoperative day, having only three to four liquid stools a day

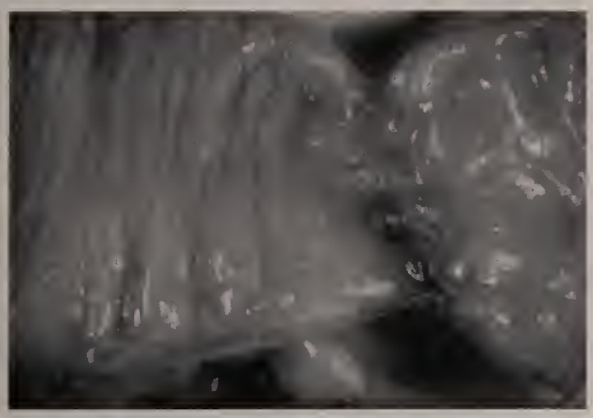

Fig. 2. Segment of the sigmoid removed at operation showing the narrow but deep encircling ulcer.

with no gross bleeding and practically no mucus. Two months after operation she was symptom free and having only one or two bowel movements a day.

Fig. 3. Photomicrograph through the ulcer showing necrosis and inflammatory reaction.

Pathology report: "Gross: A segment of large bowel about 22 cm. long; about 4 cm. from the distal end there is a ring-shaped ulcerated lesion which reduces the lumen greatly (Fig. 2). This ulcer is up to 8 mm. in width and about 4 to 5 mm. deep. The surrounding stroma is markedly indurated. The floor of the ulcer is covered by yellow and brown amorphous debris. On section the muscle coats are well preserved and not penetrated by the ulcer."

"Microscopic: Sections show deep ulcer in the bowel wall. The neighboring mucosa is unremarkable except for a mild lymphocytic infiltrate. The ulcer expands through the submucosa and the superficial layers of the circular muscle coat. The floor is composed of cellular and amorphous debris. Surrounding the ulcer is dense fibrous tissues with numerous thickened blood vessels. There is no evidence of neoplasia. The features are suggestive of radiation ulcer to rectosigmoid." (Fig. 3)

Summary

1. A case of radiation ulcer and stenosis of the sigmoid colon in a 69-year old female following radiation therapy of carcinoma of the cervix is present.

2. Surgical management of the case is described.

3. In addition to a more recent radiation

therapy and its consequences, a delayed reaction 12 years from the first radium therapy is thought to have played an important role in the final pathological changes in the colon.

References

1. Buie, L. A., and Malmgren, G. E.: Factitial Proctitis; A justifiable lesion observed in patients following irradiation. Internat. Clin. 3: 68, 1930. (Cited by Bockus in Gastroenterology, Vol. 2: 797, 1944.)
2. Walsh, D.: Deep tissue traumatism from Roentgen ray exposure, Brit. M. J. 2: 272, 1897. (Cited by Bockus.[1])
3. Colcock, B. P., and Hume, A.: Radiation injury to the sigmoid and rectum. Surg. Gyn. & Obst. 108: 306, 1959.
4. Fabrikant, J. I., Anlyan, W. G., and Creadick, R. N.: Management of Radiation Injuries to the Intestines. Southern M. J. 52: 1186, 1959.
5. Simpson, W. J., Spaulding, W. B.: Case Report. Canadian M. Assn. J. 80: 810, 1959.
6. Chanin, I. F., McElwin, J. W.: Management of advanced radiation proctitis. Ann. Surg. 150: 890, 1959.

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Hair Loss Caused by Excessive Anxiety

Temporary hair loss can be caused by "excessive anxiety," according to Dr. Albert M. Kligman, Philadelphia.

The shedding of more than a normal amount of hair "is sometimes truly psychosomatic—a direct result of excessive anxiety," Dr. Kligman said in the February Archives of Dermatology, published by the American Medical Association.

However, the condition is "uncommon". His conclusion was based on five patients in whom physiological causes for hair loss could not be found.

Dr. Kligman said his doubts about whether hair loss could be caused by psychological factors were dispelled with his observation of one particularly dramatic case involving a prisoner.

The man had gone on trial three times and escaped the death penalty on a legal technicality in each instance during a period of three years. The fourth trial resulted in a conviction of murder in the first degree. About 10 weeks later he began to complain that his hair was falling out. Four weeks later, his hair was noticeably thinner and he eventually became bald. His hair began to grow back about eight weeks after shedding subsided. The prisoner, subsequently pardoned, had complete hair regrowth by the time he was released.

The other four patients had received psychiatric care and had histories of psychosomatic illness.

Dr. Kligman is associated with the University of Pennsylvania Medical School.

Combined Extrauterine and Intrauterine Pregnancy

A Case Report

T. STACY LLOYD, JR., M.D.
Fredericksburg, Virginia

In all cases of ectopic pregnancy, the possibility of simultaneous intrauterine pregnancy should be considered. Such a case is reported with the intrauterine pregnancy going to a successful termination.

A 29 YEAR OLD colored female, A.M., was first seen in the office on January 5, 1960. Pertinent history was as follows:

1956—laparotomy for ruptured right tubal pregnancy

1958—term delivery of a 6 lb., 8½ oz. infant

1959—June—spontaneous three month abortion

1959—Nov. 15—first day of last normal menstrual period.

Pregnancy was assumed with the EDC thus being August 22, 1960. A pink vaginal discharge and pains in the left lower abdominal quadrant had led her to seek medical attention when her normal menses was about three weeks overdue.

The laboratory reported the serologic test for syphilis to be negative; hemoglobin was 72%, blood type O, Rh negative. Positive physical findings were limited to the abdomen and pelvis. There was an old, well-healed low midline scar. There was low abdominal tenderness, especially to the left of midline. Pubic hair distribution was of the male type. There was a pinkish vaginal discharge. The cervix was softened, not dilated nor effaced. The uterus was in a 1° retroversion and had the size, shape and consistency of a 4-5 weeks' gestation. The pelvis was evaluated clinically and assessed as being slightly contracted. No definite pelvic masses were detected but there was moderately acute left adnexal tenderness, pain on manipulation of the cervix, and parametrial engorgement. At this initial visit, Delalutin 125 mg. was given intramuscularly.

On January 8, 1960, she reported that nausea and vomiting had developed which had left her abdomen "sore". The pain suddenly worsened during the morning of January 9 and "faintness" accompanied by "hot and cold feelings" developed. She was admitted to the Mary Washington Hospital. Examination then revealed moderate abdominal distention and universal "bounce" tenderness. Pelvic examination was inconclusive because of marked tenderness but there was a suggestion of cul-de-sac fulness.

Admission blood pressure was 120/90, pulse 100. Hemoglobin was 56%, hematocrit 25%. Under cyclopropane and curare anesthesia immediate laparotomy was done through the old scar. About 1,000 cc. of free blood and clots were evacuated from the abdomen. The distal end of the left fallopian tube was distended with pregnancy. What grossly resembled a corpus luteum was seen on the left ovary. The right ovary appeared normal. The right tube was absent. The uterus was anterior, boggy, and en-

larged to the size of a 7-8 weeks' pregnancy. A left salpingectomy was done. She was transfused with 500 cc. bank blood during surgery and 1000 cc. postoperatively. An infusion of 500 cc. 5% dextrose in water, with Chloromycetin Succinate 500 mg. added, was also given postoperatively. The hospital course was non-morbid and uneventful, managed with symptomatic measures, hematinics, and vitamins. No progestogens were given.

Pathology report: "Gross: Consists of a 5x4x3 cm. mass. At one pole is the proximal 4 cm. of grossly normal fallopian tube. This becomes lost in the 4 cm. smooth hemorrhagic mass which (on) serial section is seen to be part of a dilated tube filled with clotted blood. At the distal end, the fimbria is lost and there appears to be a point of rupture of the tube . . ."
"Diagnosis: Ruptured tubal pregnancy."

Skin sutures were removed on the fifth postoperative day and she was discharged in good condition. On the day of discharge an early morning urine specimen was collected for pregnancy test.

She was next examined February 3, 1960. (The pregnancy test had meantime been reported as "positive.") The uterus was thought to be 8-9 weeks' enlarged. Reexamination on March 1 revealed a three months' uterus and the patient reported quickening on March 12. On March 29 the fundus measured 22 cm. above the pubic symphysis but no heart tones were heard. Examination on April 26 revealed a 23 cm. fundus with fetal heart tones clearly audible in the midline.

The remainder of the antepartal course was uneventful. The laparotomy scar healed strongly with moderate keloid formation. Labor began spontaneously August 16, 1960, and she delivered spontaneously a normal healthy 7 lb. 12½ oz. boy. (Charts 1182-F; 7169-H; 2052-I)

Discussion

The incidence of combined intra- and extrauterine pregnancy is said to be one in 30,000 pregnancies.[1] It is thus obvious that even the busiest solo obstetrician-gynecologist is unlikely ever to encounter a case in his private practice. Even a small obstetrical group is not likely to encounter more than one such case during its existence.

Even so, the awareness of the existence of such rarae aves is one of the major features that the obstetrical specialist has to offer the patients he treats. This naturally applies to other specialties as well. And through this extra awareness, interest, and knowledge regarding the "uncommonplace", the medical specialist holds his place in the profession, be he gynecologist, proctologist, etc. As has been said, "Any fool can cut"—the trick is in knowing when to cut and stop cutting.

To be sure, no one would seriously consider doing an incidental D and C in the face of a possible ruptured ectopic pregnancy or any other abdominal emergency. Nevertheless all too often we schedule in the operating room the "D and C and laparotomy" without always giving careful thought to what we expect to find in the scrapings.

Associated with ruptured tubal pregnancy is often the passage of a decidual cast. This is presumably due to the demise of the lining tissues of the uterus occasioned by the withdrawal of chorionic gonadotropin. In those cases not passing decidual fragments preoperatively, then after the tube and pregnancy are removed the decidua may pass in gross fragments.

In the case here presented, the uterine spotting ceased abruptly and no tissue was passed. This tended to confirm the original impression of intrauterine pregnancy, although some degree of uterine enlargement and bogginess is expected in a simple tubal pregnancy. The pregnancy test was obtained on the last hospital day with the thought in mind that any gonadotropins from the tubal pregnancy would have disappeared from the body; and therefore if there were sufficient gonadotropins present to produce a positive test, they must be

coming from another source, viz., a uterine pregnancy in all probability.

Also in this case, since one tube had already been removed, then the wombward-bound ovum must have been accompanied, follow-the-leader fashion, through the tube by its impetuous twin. Or the other way around.

What happened? We can only speculate.

No nuclear chromatin studies were done in an effort to disprove the possibility of identical twins, although fraternal twins would seem more likely. (Any postulations on superfetation or superfecundation will be left to the reader.) It would strain our credence less to theorize that, but for the hapless fallopian implantation, here would have been merely another set of fraternal twins.

The patient herself in this case deplored her lot, knowing that with both tubes gone, she would conceive no more. Needless to say she was most gratified to learn that she was already pregnant in the uterus at the time of this laparotomy.

It was elected not to prolong the operative procedure by any attempt at tubal reconstruction, the patient not having been in the best of condition, though not in shock. Moreover, viewing the fact that she had "shot her limit" in tubal pregnancies, it was deemed preferable not to leave her a still further handicapped salpinx in which to conceive again.

Conclusions

Heterotopic, or combined intra- and extrauterine pregnancy, has been called "comparatively rare,"[2] "rather infrequent",[3] "not rare",[4] "relatively rare",[5] and "not so very rare."[6]

Nevertheless an incidence of one heterotopic pregnancy out of 30,000 pregnancies could hardly be called frequent. More to the point is Bell's estimate, based on this ratio, of 130 such cases annually in the United States. Thus, with less than 500 reported cases since the first in 1708 (Duverney), it is obvious that tens of thousands have gone unrecognized or unreported.

Population explosions notwithstanding, it is tragedy indeed when a wanton unwaraanted curettage slaughters a wanted pregnancy. The mere rareness of a disorder ought not lead us to forget it in our approach to each and every problem.

Summary

1. A case of heterotopic pregnancy is reported, the tubal pregnancy having been removed surgically, the uterine pregnancy going on to normal term delivery.
2. The absence of passage of decidual tissue helped confirm the suspicion of simultaneous intrauterine gestation, as did the positive pregnancy test on the fifth postoperative day.
3. The need for continued awareness of all rarae aves is emphasized.
4. Since obviously a large percentage of heterotopic pregnancies go unreported, one wonders low large a percentage go unrecognized and are lost to the soulless curette.
5. In dealing with the so-called surgical abdomen, our judgment should not be impaired by the presence of a uterine pregnancy.
6. The name "ekkaiencyesis" might be considered as a less burdensome term by which to designate heterotopic pregnancy.

Bibliography

1. Kilkenny, George S., Gutglass, Milton F., and Collins, Eugene G.: Simultaneous Intrauterine and Extrauterine Pregnancy: Report of a Case. Obst. & Gynec. 3: 30, 1954.
2. Rannels, Herman W.: Simultaneous Intrauterine and Extrauterine (Ovarian) Pregnancy. Obst. & Gynec. 2: 281, 1953.
3. Steadman, Henry E.: Combined Intrauterine and Extrauterine Pregnancy. Obst. & Gynec. 2: 277, 1953.
4. Mulla, N., and Johns, W. C.: Combined Intrauterine and Ovarian Pregnancy. Obst. & Gynec. 11: 336, 1958.

5. Armitage, George L., and Armitage, H. V.: Combined Intra- and Extrauterine Pregnancy: A Case Report. Am. J. Obst. & Gynec. 69: 885, 1955.
6. Bell, Thomas G.: Combined Tubal and Intrauterine Pregnancy: Report of a Case. Am. J. Obst. & Gynec. 74: 1270, 1957.

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Southerners Beat Northerners

Southerners turned in a "superior performance" compared with northerners in an experiment to test their capacity for work in a hot climate, a study showed. Nine healthy young men, four from New England and five from southern Florida, took part in the study conducted at Homestead, Fla., during July and August, 1959.

The study is reported in the January Archives of Environmental Health, published by the American Medical Association.

The "physiological cost of walking in the heat" was the basis of the study. The maximum temperature during the test was 85.

"The best performance was shown by two southerners whose working body temperature and heart rate remained unaffected by environmental temperature, being influenced only by the speed of walking. These two subjects maintained thermal balance simply by increasing their sweat output in proportion to the rise of environmental temperature."

The study showed that the total thermal strain of walking at a rate of 3 or 3½ miles per hour was roughly 40 per cent greater for the northerners than for the southerners at 79 degrees and 70 per cent greater at 84 degrees.

Conclusions drawn were summarized as follows:

"A comparison of the performance of young, southern Floridians with that of a similar group of New Englanders, walking in the humid heat of Homestead, Fla., indicated that the southerners had a more efficient heat regulating system, which enabled them to perform the standard exercises with distinctly less sweating, and a smaller rise of body temperature and heart rate. The southerners required a shorter period for physical conditioning in the heat, and lost acclimatization at a slower rate than the northerners during periods of cool, rainy weather. The superior performance of the southerners is ascribed to their long-term acclimatization, and their knowledge of living and working in their accustomed warm climate.

"It would seem that in selecting personnel for duty in hot areas, the geographical origin of the individual should be given a high priority, possibly next to that of physical fitness."

The article was written by the late Constantin P. Yaglou, Boston, who was professor of industrial hygiene, Harvard School of Public Health, and consultant to the Armed Forces Epidemiological Board.

Pre-School Clinic

Middlesex Style

A. L. VAN NAME, Jr., M.D.
Urbanna, Virginia

The Middlesex Pre-School Clinic has been an outstanding success. It is an example of lay and professional groups working unselfishly together in a good cause.

IF MIDDLESEX COUNTY is blessed in the fact of her pre-school clinics, then she should thank Urbanna Elementary School Principal, Mildred Hall Clark. In 1948 she decided that her children in Urbanna Elementary School needed routine pre-school physicals and had gone without them long enough. She was in a good position to know. However, with a war very recent, and only three physicians (one part-time) in a county of 6,500 people, and no county health unit at all, she was hardly in a good strategic position to do much about it. She requested help from her family physician. There was no argument about the need, but at the time even emergency medical care was, of necessity, sometimes long in arriving. The matter was considered, and out of that emergency thinking was born the Middlesex Pre-school Clinic. Mrs. Clark got what she wanted for her children (as usual), and Middlesex people, lay and professional, are glad she "went a seeking". We are proud of our clinic and would like to tell you about it.

The original clinic filled a real need in our children's progress—an urgent need then, a real need still. In 1948 there was no time for the "say ah, and vaccinate" type of clinic, and there still isn't. Probably there never was. The original clinic was a project of two small PTA's assisted by local professional and State Health Department personnel. The PTA's are still the leaders. The first clinic surprised and pleased everybody concerned. It was only a little success of 35-40 children from two small elementary schools.

In four years, however, it had been extended by PTA requests, entirely unsolicited, to cover every white pre-school group in Middlesex County. The following year, 1952 saw Middlesex's dream of a Local Health Unit realized, and in that year, under their leadership, the pre-school clinics became county wide, available to all preschoolers, white and colored. We all sat back with a sigh of relief, only assisting where requested, and let the Health Unit do it—and attendance fell. The County Health Department didn't fail; we did. They could not manage it alone anymore than we could. Again we all put our shoulders to the wheel, but with a lesson learned. The same essential State and Local Health Department personnel served, the same local professional personnel also, but this time in the lead were mothers and dads of the children themselves, as PTA units, and accomplished the best to date in pre-school clinics. We call them Pre-school Clinics—Middlesex Style!

The Middlesex Pre-school Clinic has had its ups and downs over the years. An account of them would be interesting and often amusing, but if this clinic fills a real need here it might do the same elsewhere, not for what it was but for what it has become. Thus, things historical will be omitted in favor of the project of the present. May

we submit the case history of the 1959 clinic. It was probably our best, but the coverage has been as good in other years. We select it because the physical layout was ideal and lends itself better to explanation.

The clinic usually is held in April or May, but the project begins early in the school year. Good preparation will make the clinic itself what the children call "a ball", and preparation begins as soon as the PTA's evidence an enthusiastic desire for the clinic and appoint their leaders.

Through the school personnel and the County Health Department, the pre-schoolers are located and counted and reported to the professional leaders by the newly selected Clinic Project Chairmen.

Meetings are kept at a minimum. Having received the count, the professional workers lead off. Local M.D.'s, dentists, the County Health Director, and any other technical help set place, date, services to be offered, and schedules on "who works when". Consideration is given to office hours, days off, and the like. Careful understanding on policy and ethics takes time, but such matters as referral of remedial defects, what immunizations, and similar items are definitely decided here before contact with lay units. Requests for outside help for this clinic—for State pediatrician and nutritionist—emanate from this meeting.

Coincident to the above, the PTA's (and/or the Health Unit) are circulating so-called "flyers" to pre-schooler parents. These are important, being time savers for historians for one thing. This one, after sundry rather unsatisfactory products by the physicians, was constructed by a PTA leader and a school principal. We like it for its simplicity and directness. Comment on other essential parts will follow the copy we submit now.

MIDDLESEX PRE-SCHOOL CLINIC

If you wish your child to attend the Pre-school Clinic for comprehensive physical examination, fill in and sign this form. You will be informed of time, place, and details by your local PTAs who are sponsoring the clinic, and by articles in the Southside Sentinel.

Child's full name_____

Parent's or Guardian's full name_____

Parent's or Guardian's address_____

Child's Date of Birth_____

Name of School he will attend_____

Mark following list correctly:

The child has had smallpox vaccination ___Yes ___No

The child has had his "triple", "three in one", or baby shots (or "needles"). (These are usually first given at age 3-6 mos., and really consist of whooping cough, tetanus and diphtheria vaccine combined.) ___Yes ___No

The child has had polio shots ___Yes ___No When_____

The child has had the following booster shots.

_____

_____

_____

Further history will be taken at the clinic. Bring a specimen of the child's urine to be tested. No child will be examined without a parent or guardian present.

Signed_____

I will provide transportation for my child to and from the clinic. ___Yes ___No

I cannot provide transportation for my child to and from the clinic. ___Yes ___No

Note: The parental signature, while it gives consent for the child to participate, does so by entering request for this service. We find this good policy and good protection. Without this no child will be examined. Also, if unaccompanied by

parent or guardian, a child would be rejected. This measure was absolutely essential in the early clinics because there was no county nurse for follow-up service. The parent had to be advised of all recommendations on the spot or not at all. It has been retained because it so greatly increases efficiency. The transportation statement invites imposition. We admit it. Nevertheless we continue to accept it because there simply has not been too much imposition, and because the PTA leaders consider this service of proven value for a high percentage of coverage.

About one month prior to the clinic the first joint professional and lay conference is held. It is exactly what anyone would suppose. PTA chairmen (representing in Middlesex County eight small elementary schools), school principals whenever possible, and professional personnel synchronize their efforts. The difficult and important task of pre-clinic publicity is also discussed here. This too is "synchronized", i.e., produced by PTA writers and carefully edited by the professional team. The local newspaper has been the most effective vehicle, second only to enthusiastic "over the back fence" boosting. Occasionally a speaker on PTA programs has been used.

The only other joint lay and professional meeting is a briefing session held at the site of the clinic with the set-up in place. Usually held the evening before the first day of the clinic, and consisting of the actual clinic teams, it does exactly what you think it would.

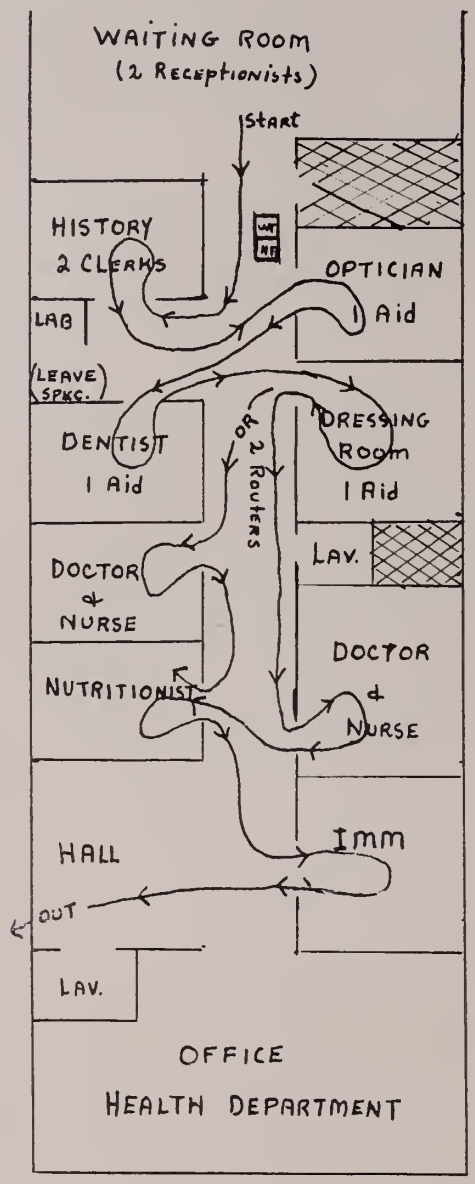
With a probable census of about 100-115, two full days are allotted for the 1959 clinic. In this, as in all previous clinics, every doctor and dentist in the county will participate. Thus far the effort has been largely integrated, colored and white workers joining in the workup and the briefing sessions. From here on the clinics are segregated, and to the largest possible degree each PTA furnishes its own workers. The Director of the County Health Unit is present at all times, as is the consulting pediatrican and nutritionist from the State Health Department. First grade teachers, if planning to return next session, are also encouraged to be present with their prospective class groups. The optometrist covers the whole clinic.

The following is the plan of action:

	WEDNESDAY	THURSDAY
9 A.M.	2 Adjacent White Schools 20-25 children expected Dr. A—(White) Dr. B—(White) Dentist—A (White)	2 Adjacent White Schools— 25-30 children expected Dr. A Dr. B Dentist A
Noon	LUNCH	HOUR
1 P.M.	2 Adjacent Colored Schools— 18-20 children expected Dr. C—(Colored) Dr. A—(White) Dentist—B (Colored)	2 Adjacent Colored Schools— 30-35 children expected Dr. C Dr. B Dentist B
5 P.M.	Dr. A & Dr. C & Dentist B's Day Off	Dr. B's, Day Off

In 1959, circumstances provided an ideal floor plan in an unoccupied doctor's office continuous to the regular Health Unit office. It was not always so convenient or efficient, but we will submit this floor plan with the

clinic set-up because of its simplicity of illustration and description.



Now let us accompany a child through the 1959 clinic, and make a few notes as we go along.

1. Note the sign at the door—no LMD or Health Department project this! Rather a cooperative effort for some fine children with their respective PTA's in the lead all the way.

2. The door—it stays open, but the children are dribbled in to prevent fatigue, noise, and confusion. PTA's planned appointments, etc. previously.

3. The reception room—two PTA matrons to keep the kids happy and the parents as happy as possible. Contributed comic books, etc., help a lot. Here the parent is provided with the child's chart which will accompany it through the clinic. A regular health department form is used, and on it is noted each observation step by step. These receptionists weigh, measure, and run a Urostix test on urine, and these are the first entries on the chart.

4. History is next. Unless two historians are kept working simultaneously, a bottleneck develops here. Experience has also taught that these best be R.N.'s or efficiency suffers. (We use our Health Unit nurses here.) History is as full as practical, the pre-clinic "flyer" being a big time saver.

5. Dental examination by local dentists with what help he desires (M.D.'s and dentists alike usually prefer to use their own assistants, otherwise they are provided from PTA workers) takes place now and results are inscribed on the chart—technically for a future remedial dentist's perusal, and more simply for the dentally-simple physicians who will follow. The dentist may enter a request for special dietary advice by the nutritionist, and finally, carefully and un-

hurriedly, advises the parents relative to the child's dental needs.

No specific referrals for remedy of defects are made. Even if the child is the dentist's patient, he will advise to the effect that "we will talk this over further if you get in touch with us later", rather than "bring Johnny to my office Tuesday at 10 a.m."

8. The doctor's examination follows, and two work separately and continuously. The examination includes what each doctor thinks it should, and each doctor has been provided with a nurse, either lay or professional. In this clinic, the State Health Department provides a pediatrician who consults when requested by the examining physician. Dr. Will E. Chapin has been with this clinic since its inception, and we now consider him an essential member of the home team. Examination complete and properly noted on the chart along with recommendations medically, a conference with the parent takes place. Results of all findings are discussed and recommendations are explained.

6. In this and some other clinics, optometrists have contributed their services and entered their advice on the charts. This may improve on the LMD's eye examination, but services of an opthalmologist would have been preferable, of course, to either. The parents seem to like this facet of the clinic, and this service is a good selling point. It is being presently continued; no specific referrals for remedial defects are allowed, of course.

7. A dressing room for undressing and a cheerful, friendly, an efficient PTA matron presiding, prevents a bottle-neck at this point. She will have a child stripped to its underclothes and socks and ready on call for medical examination. The parent will bring the clothes along when the child enters the doctor's cubicle.

The parent is encouraged to talk, and a reasonable amount of time has been allowed for this in the clinic schedule. Special notations here inscribed will guide the nutritionist along any special lines, and immunizations will be indicated. While this conference is in progress, the child is being dressed by the doctor's helper and is ready to go to the nutritionist, who is next, by the time the doctor has concluded his chat.

9. The nutritionist from the State Health Department, either Mabel Todd or some member of her staff, has attended each clinic and provide a clinic service very popular with the mothers. If there are not requests on the chart for special dietary advice, a short informative chat of about ten minutes or so is given. We think this service has done a lot of good, almost as often in the privileged as in the underprivileged families.

10. The immunizations are the care of the Local Health Director and administered by him or his personnel as recommended on the chart by the examining physician. Parenthetically, may we repeat that these recommendations, with few exceptions, follow the decisions made by the physicians and the director in the first meeting of the "professionals" long before the clinic is held. This clinic offers a DPT and/or vaccination and/or one of the first three Salks. Obtaining future injections will be the responsibility of the parents. The Health Unit Director stresses their importance.

11. This brings us to the end which is logically enough cookies, fruit juice, etc., provided by the PTA's. It is remarkable how frequently the doctors, dentists, and nurses arrive at this point. Getting the children there, a process involving six to eight children and parents being "in the process" all the time, is not so easy.

This is accomplished by essential members of the team. We call them "routers". They do just that—route the children in the way they should go, maintain orderly progress, avoid and break bottle-necks, and take care of the unexpected. We feel that capable PTA mothers, carefully briefed, do this best, and upon their selection rests a large part of the clinic's success. This is the one clinic worker for whom we have a spare on tap at all times.

This paper is about the clinic, not the follow-up, but the follow-up justifies the clinic. Briefly listed, the follow-up on the Middlesex Pre-school Clinic includes:

1. A statistical recap of the results is compiled by the clerk of the Health Unit and distributed by her.

2. Pressurizing to remedy defects is the care of the parents, the teachers, and the county nurse, and in that order.

3. Correction of defects is by local dentists and M.D.'s, or through referral by them for specialist care. Their cooperation has been unfailing. We think it will continue to be as long as a strong policy at the clinic of "go to your local doctor or dentist" prevails.

4. Indigent care is channeled through usual agencies by LMD's and dentists.

5. An active and efficient county nurse is essential to the follow-up, but she must be untiring in her efforts.

We feel that the 1959 clinic effort was satisfactory. Witness the coverage as recapped:

MIDDLESEX COUNTY HEALTH DEPARTMENT
SALUDA, VIRGINIA
PRE-SCHOOL CLINICS—APRIL 8TH & APRIL 9TH

	White	*Colored*	*Total*
Number Children Expected to Attend Clinic	51	53	104
Number Children Examined	47	56	103
Children with Dental Defects	28	46	74
Children with Medical Defects	22	37	59
Children *Needing* Immunization	44	52	96
Children Receiving Immunization	42	52	94
Breakdown on Immunizations Given:			
Smallpox Vaccination	39	50	89
1st Triple Injection	3	24	27
Triple Booster	29	26	55
*Salk Vaccine	6	12	18

*This group of children had been unusually well covered prior to clinic.

In closing, the writer would offer certain comments about the project here outlined.

Much has been said in favor of such service on a private and individual basis only. Ideally, we also would prefer the private way, but practically we believe the clinic more than justifies its continuation until the ideal can be attained. We think the clinic will continue as the best way for a long time yet, for the following reasons:

1. Certain children are reached that might otherwise be omitted.

2. All the children benefit from this experience as their first class activity.

3. It seems dubious that this much service could be enjoyed any other way—except in rare exceptions—by any of the children.

4. The project provides a fine cooperative effort which educates all involved—PTA members, physicians, dentists, Health Department Personnel, both state and local, and even the children—and establishes good rapport and better relations between them.

Experience of years has produced what seems to be axioms to clinic success. They are:

1. The effort is not justified if attendance falls below 90 per cent of the expected number of pre-schoolers. If it does, the missing will be largely the underprivileged —the very ones we most desire to cover.

2. Unless the privileged class attends well, the underprivileged cannot be induced to do so.

3. To insure the attendance of the privileged, the clinic must offer more to each child than that child could obtain at the office of any one LMD, however efficient.

4. PTA leadership and enthusiasm are a must.

5. If the clinic sounds good enough, professional and Health Department personnel gladly participate.

Much has been written relative to such efforts infringing upon private practice. Much has been said about Health Department facilities doing the same. In some instances this admittedly occurs, however, every Middlesex doctor continues to back this Pre-school Clinic with the equivalent of at least two full days work. In this county, the state and local Departments of Health are entitled to a large share in the success of the project, and we are all grateful. We will invite them to participate again next year just as surely as we plan a clinic next year.

Elsewhere this effort could be done differently. The type and amount of professional help available decides much. Perhaps in a larger group or a smaller one, it might not work at all. As for the Pre-school Clinic —Middlesex Style, it, too, changes from year to year. It grows or deteriorates. Cooperation has been the key to success. Cooperation is assured by one thing—clinic excellence.

Summary: If we had one, you would not read the article, and we would not blame you.

Discussion

Dr. Van Name is to be congratulated for writing this informative article as well as commended for his leadership in making such a clinic so popular and successful.

This project has two outstanding characteristics. The first is the ideal of service. The whole objective of the clinic is to provide the entering school child with the best medical check-up the community can provide. The second is the excellent spirit of cooperation among the various groups represented, both professional and lay. No one appears to be concerned about receiving the credit, or whether this project results in a profit or loss for the practicing physician or dentists. Referrals for corrections may mean added income in some instances, but the real value to the healing arts profession is improved public relations. Here is demonstrated for all to see the physician's concern for the child's well-being and an attitude of service above self. This will stand the profession in good stead, particularly if the future brings controversy concerning the public's concept of the role of the medical profession.

State and local health departments stand ready to cooperate in projects such as this. It is not the intention of official health agencies to dominate the practice of medicine but only to augment, supplement, or help fill a gap—to be medicine's "right arm" in time of need—and to help make our medical knowledge and practice more efficient and productive. With this sort of cooperative spirit few health problems need go unsolved.

Mack I. Shanholtz, M.D.
State Health Commissioner

Pre-Paid Medical Care....

Edited by
RICHARD J. ACKART, M.D.

Tax Blue Cross? No!

The 1960 Session of the General Assembly adopted Senate Joint Resolution No. 54, which called for a broad study of the non-profit hospitalization Plans in Virginia. The Resolution directed the Virginia Advisory Legislative Council to review and report back upon six specific matters concerning Blue Cross: operating practices, relationship of rates to costs of services, advisability of deductible provisions, desirable reserves, taxation of dues, and the question whether or not the Plans should be classified and treated as insurance.

The VALC Committee which is undertaking the study-project held a Public Hearing during February of this year. This Hearing was attended by thirty-five persons, twenty-two of whom were representatives of the insurance industry. These twenty-two insurance salesmen were enthusiastic in their recommendations that the non-profit Plans be made subject to the same premium tax which insurance companies pay, and to all intents and purposes the proceedings of the Hearing were limited to statements, questions, and answers pertinent to the subject of taxation of Blue Cross.

It was apparent that the majority of those representing the insurance industry had no conception of what Blue Cross is trying to accomplish for the people of Virginia. Perhaps too many people in the State have similar misunderstandings.

On the other hand, the traditional insurance concept of limited liability against loss is well understood, since it has been in general use in many areas of risk for generations. When the insurance companies entered the field of health insurance, they projected their past underwriting experiences into the health field and placed fixed indemnities, under specified conditions, against the policyholders' financial loss through illness. Their contracts provided benefits directly to policyholders. They were unconcerned with the amount of the hospital bill.

The community service approach of Blue Cross was from the beginning totally different from the insurance method of indemnity payment to the individual.

Blue Cross is, and always has been, a grass roots movement. The Plans were organized in the depths of the depression under special enabling legislation as non-profit community service organizations. Hospitals were authorized by law to organize and conduct a program of prepayment for their hospital services; that is, the hospitals were permitted to charge in advance, rather than at time of discharge, and to level out their advance charges into regular, periodic small amounts.

To those persons prepaying their charges, the hospitals have issued contracts. In general these contracts cover care in the amount needed when it is needed, within very broad time limits, across the full range of hospital services. Such service benefits are the keystone in the arch of family protection against the cost of illness.

To handle the business aspects of their cooperative venture, hospitals needed an agency and therefore set up special hospital-agency organizations, now collectively known as Blue Cross. The subscriber contract of one typical Blue Cross Plan starts off with the statement: "The Participating Hospitals, acting through Virginia Hospital Service Association, hereinafter called 'Association' (agent for the Participating Hospitals), do agree with the Subscriber whose application is accepted for a contract for hospital service as follows: Upon payment

in advance of the charges made therefor, the Subscriber and those accepted with him will be provided the hospital services defined in the body of this contract, subject to the terms and conditions herein set forth."

Blue Cross objectives—quite unlike those of commercial insurance—are (1) to meet the acute need of people for a method to prepay the costs of illness, (2) to make it possible for the voluntary hospitals to carry on their service, and (3) to help carry the social burden that hospitalized illness often creates for the community.

To reach these objectives, Blue Cross developed certain unique concepts which have become basic principles of Plan operation.

The prepayment Plan must meet the cost of essential hospital care for the subscriber and must make payment directly to the participating hospital for the services rendered. This concept of service benefit—of paying the hospital for care given the subscriber regardless of cost—is the "cornerstone" of the Blue Cross structure. This concept violates basic insurance principles and is in direct contrast to the commercial insurance concept of paying limited cash indemnity to the policyholder against his financial loss.

All the people of the community should be given the opportunity to enroll. Blue Cross has always rejected the insurance principle of limiting coverage to persons with stable employment in selected groups, where low hospital usage and profitable underwriting could be expected. To the insurance industry the idea of underwriting a community risk has been unthinkable.

Subscribers should be permitted to continue in the Plan regardless of changes in employment, age, or health status. This concept looks toward meeting the long term needs of people regardless of insurability. The idea of continuous coverage regardless of changes in employment and health conditions is entirely unsound from the commercial insurance viewpoint in that, though socially advantageous, it is not financially profitable.

The Plan, like the community hospitals for which it is agent, must operate as a nonprofit community service organization. Sickness and injury represent personal tragedies which people who are motivated by religious and humanitarian impulses have always tried to alleviate. Blue Cross Plans are operated by boards of trustees who serve without pay in the community interest.

Upon these principles the Blue Cross movement in America and in Virginia has been built—principles designed to make it possible for the individual to pay for needed hospital care in advance—principles implemented to help the community solve an increasingly costly social problem.

These principles are basic requirements for sponsorship of Blue Cross by local hospitals and for approval by the American Hospital Association. The safeguards of limited dollar liability, which often leaves a major part of the hospital bill unpaid; of protection for only selected groups and individuals, which obviously tends to deny protection to the people who need it most; of termination of coverage when employment or insurability changes, which tends to deny protection to people when they need it most—these underwriting principles, common to commercial insurance operations, are foreign to Blue Cross and in direct conflict with the purposes and objectives of the voluntary community hospitals in this country.

There is therefore a great difference between traditional insurance and the service Plans. They are not comparable. Their methods are different. Their purposes are not the same. Their functions, their traditions, and their history are not even related. These differences are so important to our system of health care that they should not be impaired by legislation or by taxation.

It is important that people have available for choice a type of protection that is neither temporary nor partial, but which provides payment for the care they need when needed and which they can take with them

regardless of changes in employment or advancing age.

Blue Cross coverage is provided directly by contract with 7,000 hospitals in the nation. In Virginia, as elsewhere, the hospitals literally guarantee to subscribers that the benefits offered by their Blue Cross Plans will be provided by the hospitals regardless of the Plans' ability to pay for that care. Blue Cross' reimbursements of hospitals are made under contract in terms related to each hospital's cost of operation. Only such an arrangement can provide a safeguard to the patient against uncontrolled increases in charges. Only Blue Cross can provide this safeguard.

As a community hospital service program, Blue Cross should be as tax-exempt as are the community hospitals; after all, the income to Blue Cross—the hospitals' agent—is, of course, hospital income.

Stops Massive Stomach Bleeding

General body cooling has been tried for the first time in stopping massive bleeding in the stomach and intestinal area and found successful, according to two Connecticut surgeons. Drs. George F. Gowen and W. W. Lindenmuth, West Haven, Conn., describe three cases in which massive hemorrhages were controlled by the method in the January 7 Journal of the American Medical Association.

"Although general hypothermia [an abnormally low body temperature] has not been used previously for patients with massive gastrointestinal hemorrhage, the background of experience in other conditions gave evidence for its use."

The severity of the bleeding may be judged from the fact that 62 pints of blood were replaced in one patient before hypothermia, 33 pints in another, and 14 pints in the third.

Ice bags were applied to lower the patients' temperature to 87.8 degrees Fahrenheit, about 10 degrees lower than the normal body temperature. The duration of hypothermia varied.

"The exact mechanism by which gastrointestinal hemorrhage was controlled in these patients is not known, but the prompt improvement seems more than coincidental. Certainly in the poor-risk patient with massive uncontrolled hemorrhage, total body hypothermia would warrant further evaluation."

In each of the three cases, they pointed out, "operative intervention was clearly inadvisable."

There was no recurrence of the bleeding, although one of the three patients died later.

Since the article was written, the surgeons have used the method for three other patients. The bleeding also was arrested in these three, although it recurred in one and all subsequently died.

The two surgeons are associated with Yale University School of Medicine and Veterans Administration Hospital.

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Ecology of Rocky Mountain Spotted Fever:

A Basic Research Project now in Process in Virginia

The background of the struggle to conquer Rocky Mountain Spotted Fever is indeed a drama of the West. About 1900 the study of the disease began in earnest under the guidance of the Montana State Board of Health. The disease was primarily present in the area of the Bitteroot Valley, a fine, prosperous, agricultural and timber area. The dread disease, "Black Measles" with 80% mortality was spreading fear in the hearts of these healthy, prosperous people. Here in a horse-back, log cabin setting the long and difficult search for a cure for, and vaccine against the disease began. In the years that followed, many famous and capable individuals pitted their knowledge and skill in the great study. The name most famous to all was Dr. H. D. Ricketts, who died in Mexico of typhus, a disease he was studying that he might learn something applicable to spotted fever. It was Dr. Ricketts who had experimentally proven that ticks transmit the disease to man. "But the next question he intended to attack was: 'How did the tick get the virus?'. During most of the season of 1908 he worked trying to answer this, but did not succeed. (Nor is it yet settled whether the virus of spotted fever is perpetuated by the tick alone, or whether a combination of the tick and animals is responsible.)" (-Price 1948, p.50).

As a result of that work, here in 1961, a most adequate vaccine has been developed. Since the close of World War II with the advent of the antibiotics, of which Chloromycetin is the most effective, we have an excellent cure for the disease. The death rate has been drastically reduced and the disease is no longer considered the "dread disease" it once was. Yet, experience has shown that success may be temporary when all the answers are not known. It is important that the complete picture be presented to answer the question Dr. Ricketts posed but which he never lived to answer, "How did the tick get the virus?"

By its name alone this disease has a western connotation, yet from the point of incidence it is misleading. Throughout the years the State of Virginia has consistently reported more cases of Rocky Mountain Spotted Fever than any other state in the Union. The second and third ranked states are Maryland and North Carolina.

Being aware of this fact the Bureau of Insect and Rodent Control, Virginia State Department of Health, became especially interested in the disease. In the Spring of 1960 this Bureau was awarded a National Institute of Health Research Grant for a period of four years to study the Ecology of Rocky Mountain Spotted Fever. The project is headed by Mr. R. E. Dorer, Director of the Bureau of Insect and Rodent Control. The laboratory work for this project is being supervised by the well known Rickettsiologist, Dr. Henry S. Fuller, of The Walter Reed Army Institute of Research. The project employs one full-time Laboratory Investigator as well as two Field Investigators. The main line of investigation to be followed is to determine what role small mammals play in the cycle of this disease in nature.

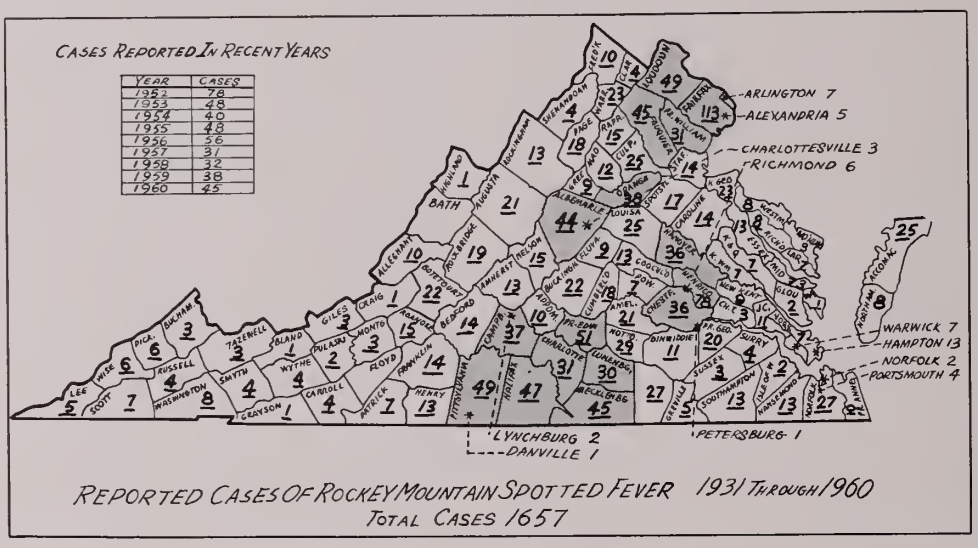
The reason interest settles around small mammals is that it is on them that the immature ticks feed. In the East, the dog tick *Dermocentor variabilis* is considered the principal vector of this disease to man. This tick has two blood meals before reaching

the adult stage, which we usually find on ourselves and on dogs. Normally the first, or larval, feeding takes place on mice, dropping to the ground after engorgement and molting to a nymph. The second, or nymphal, feeding usually is on a larger mammal, often a rabbit. After this feeding it drops off and molts to the adult, the form most often observed.

The mammals are all live trapped in box-type traps. They are carefully removed each morning. Immediately, they are checked for any ectoparasites that may be present. The ectoparasites are carefully retained for later identification to add to the knowledge of their distribution. The animals are then placed in a specially prepared crate designed to keep them healthy and well. They are fed and watered and provided cotton to nest in. At the end of the week they are shipped in their special box by Air Freight to the laboratory. This method of transport is used to reduce the numbers lost in shipment.

At the present status of the project, the mammals of most interest are the mice that live in the out-of-doors as well as young rabbits. Excluded from the mice tested are all house mice; they frequently live in the out-of-doors environment. They are excluded due to the known meningococcal infection which they carry and which is disastrous to the guinea pigs used in the laboratory. In circumstances with mammals larger than rabbits, a blood sample is taken and the animal is not shipped to the laboratory. Other animals that have been tested are fox, opossum, ground hog, raccoon, and deer.

This statewide project is being operated in the following manner: The first and very important step is that the Bureau of Insect and Rodent Control, Norfolk 2, Virginia, telephone UL3-7684, be notified as quickly as possible when a case of spotted fever is diagnosed. When this information is received, plans are made for a field investigator to visit the area where the case is reported. This investigator visits the physician and learns as much as possible about the particular case. Usually, at this time, the investigator determines if the patient had a recent history of a tick bite. If a tick was involved, the next step is to attempt to learn where the patient picked up the tick. When this spot is located, he then determines if that would be a suitable area to trap small mammals. If it is not suitable, he may go on to another case. If it is a good locality for trapping, he would spend about five days trapping in that area. If a tick is not involved and the patient does reside in a favorable area, trapping may still be conducted,



if time permits. It is often possible to obtain the most valuable information in unexpected locations.

In the laboratory two tests are being conducted. The complement-fixation test on blood sera is run. From the internal organs of the animals received an attempt is made to isolate the Rickettsia. In attempting isolation, the procedure followed is to inject liver and spleen material into fertile eggs and guinea pigs. In order to distribute the work load more evenly, the laboratory of necessity must freeze and store some of the field material.

This project has been in operation during one Rocky Mountain Spotted Fever season here in Virginia. The early laboratory results are exciting. At this early date, sufficient information has been obtained that a scientific paper is nearly completed for publication. With the success continuing at the present pace, the four-year results should be very worthwhile.

A purpose of this article is to bring attention to physicians the fact that Rocky Mountain Spotted Fever is an important disease in Virginia. During the past thirty years 1657 cases have been reported. Every county in the state has reported the disease except Bath and Floyd. The concentration of cases appears to be in the central area of the state. Forty-five cases were reported last season (1960) and two human deaths were suspected to be caused by the disease. Whereas the above (45) is the number of cases that were reported, it is very probable that many cases occurred which were not reported. Routine antibiotic therapy may well be curing some cases before they are diagnosed as Spotted Fever. Diagnosis of this disease is not always easy. It is believed that several delays in diagnosis during this past season were directly attributable to the obscurity which the disease has come to occupy in more recent years.

Physicians, more than any other group, are cognizant of the value and necessity of projects such as the one discussed here. The physicians of the State of Virginia through early diagnosis and prompt reporting of the occurrence of this disease can lend their cooperation to the investigation of the source of infection and will be making a valuable direct contribution to this piece of basic research.

Bibliography

Price, Esther Gaskins, 1948. Fighting Spotted Fever in the Rockies—Naegele Press, Helena, Montana; 269 pp.

Monthly Report of Bureau of Communicable Disease Control

	Feb. 1961	Feb. 1960	Jan.-Feb. 1961	Jan.-Feb. 1960
Brucellosis	5	0	5	2
Diphtheria	4	2	6	6
Hepatitis (Infectious)	88	80	179	165
Measles	945	1089	2374	1727
Meningococcal Infections	7	5	13	12
Aseptic Meningitis	1	3	2	6
Poliomyelitis	0	0	0	0
Rabies (In Animals)	18	21	37	47
Rocky Mt. Spotted Fever	0	0	2	0
Streptococcal Infections	700	495	1293	1358
Tularemia	1	1	3	20
Typhoid	0	2	0	3

Cancer Trends . . . .

RANDOLPH H. HOGE, M.D.

The Improving Outlook in Gynecic Carcinoma

It is estimated that 23,000 women will die in this country in 1961 of cancer of the genitalia; that 40,000 new cases of cancer of the uterus alone (cervix and corpus) will occur, that 800 of these will be in Virginia.

However regrettable the high incidence of female genital cancer, there are certain favorable features of such cancer relative to malignant disease in other sites. These features have to do with the peculiar anatomy and physiology of the organs involved. Specifically the accessibility of the genital tract makes for early diagnosis and effective treatment. Furthermore, the generative organs, however important, are not vital, thus permitting treatment ranging from complete and permanent arrest of function to total ablation. Another favorable feature is the radiosensitivity of cervical carcinoma, the most common of gynecic cancers.

The history of the effective management of gynecic cancer begins in the later part of the nineteenth century with the occasionally rewarding use of surgery of the Wertheim type. Subsequently, during the twentieth century, great studies have been taken, first with the introduction and development of irradiative therapy followed by the almost abandonment of surgery for cervical carcinoma, and later with further development of irradiation along with a renaissance and extension of surgery. Of comparable importance have been developments in the area of diagnosis. An outstanding result of this progress has been a decline of 40% in uterine cancer mortality during the last twenty years.

Improvements in irradiation, still the most widely used and generally most effective means of treating cervical carcinoma, have been in sources and techniques and more attention to tissue or tumor doses. Surgery has profited by advances in its adjuncts: anesthesia, transfusion, antibiotics, recovery rooms, interspecialty cooperation, etc.; and by developments in its types: node dissections, exenterations, et al; and by wider use at both ends of the stage spectrum, for example, in the now recognized stage O (non-invasive) and in the stage I (invasion confined to the cervix), and in some advanced cases previously considered inoperable.

With further reference to surgery it can be said that the shift, now almost complete, from the subtotal to the total hysterectomy for benign uterine disease has prevented and will prevent many cases of cervical carcinoma. So too the many conizations and similar procedures on the benign cervix may be preventing some cases of cancer. And also prophylactic salpingo-oophorectomy at the time of pelvic surgery for benign disease in women at or past the menopause will help reduce the incidence of ovarian and tubal cancer, still deadly diseases, the mortality from one of which, ovarian carcinoma, is apparently on the increase.

However important have been the advances in *therapy*, it is probable that no tremendous future progress can be expected with the modalities now known to be curative. Until such a time as there is a breakthrough into a new curative modality, the best prospect for continued improvement in gynecic cancer morbidity and mortality lies in the field of diagnosis. This is *not* a dismal outlook.

The stage of the disease, assuming proper treatment, generally determines the prognosis. Thus the trend toward earlier and earlier diagnosis has been of tremendous im-

port. This trend is the result of a number of factors. One among these is the recognition by the public and the profession alike of the importance of prompt pelvic examinations when symptoms occur and periodically in their absence. Another is the acceptance of the concept of intraepithelial carcinoma (practically 100% curable) as a forerunner to invasive carcinoma. And yet another is the growing use of exfoliative cytology, certainly one of the most important advances in gynecologic diagnosis.

If the entire adult female population could have a pelvic examination every six months and Papanicolaou smears every twelve, and if these were properly done and examined, and the results properly acted upon, the diagnosis of *late* carcinoma would rapidly diminish and the cure rate rapidly improve. In the case of cervical cancer late diagnosis would diminish to the vanishing point and the cure rate approach 100%. There would also be important improvement in the outlook for cancers of the vulva, vagina, and endometrium, and, though to a less degree, for adnexal cancer.

The distance to the millennium when there will be a specific general therapeutic agent for the eradication of cancer is not predictable. But, in countries such as ours, one millennium could be very close. That is the happy time when proper pelvic examinations and diagnostic methods are available to all women and used regularly. For this we have already the clinicians and the pathologists; we are fast getting the cytologists and cytotechnicians.

So important and so fruitful is early diagnosis, that it is desirable for every physician seeing women patients to do, if it is in his province, or have done by others qualified, or to encourage or urge the doing, of these examinations and tests. And then, when the diagnosis is made, it is a must for the cancer therapist to use the best treatment for the particular disease in the particular patient.

1200 East Broad Street
Richmond 19, Virginia

Don't Use Detergents

Detergents should not be used as a hair shampoo, according to a staff consultant of the American Medical Association.

Joseph B. Jerome, Ph.D., of the A.M.A. Committee on Cosmetics, said in the March 11 A.M.A. Journal that detergents are formulated for heavier cleaning duty than washing hair.

"Thus, while they may fall within the manufacturing tolerances they are likely to contain caustic ingredients which are irritating to the more sensitive areas of the skin. In using such products, one must always consider the possible damage not only to the hair and scalp but also to the eyes.

"With this in mind the use of commercial detergents for shampoos should be condemned. A large number of available shampoos are blander and, therefore, to be preferred."

Dr. Jerome made the statement in answer to a question sent to the Journal by a Connecticut physician who said some mothers had been using detergents for shampoo.

Mental Health . . . .

HIRAM W. DAVIS, M.D.

Virginia Treatment Center

Barring some unforeseen circumstance, the Virginia Treatment Center for Children should be in operation by late summer 1961. Since there has been some misunderstanding apparent about the operation and supervision of this new agency of the Commonwealth, it seems advisable to reproduce in full that section of the Code of Virginia which is pertinent. The following material is reprinted from the 1950 Code and the 1960 Cumulative Supplement:

ARTICLE 5

Virginia Treatment Center for Children

§37-25.1. Establishment and location. —The State Hospital Board is authorized and directed to establish, construct and equip a treatment center to provide for study, treatment and care, and for research into methods of treatment, of emotionally disturbed and mentally ill children. The center shall be known as the Virginia Treatment Center for Children and shall be located on State-owned property within the vicinity of a State-supported medical teaching center. (1956, c.60.)

§37-25.2. Supervision and control of State Hospital Board.—The Treatment Center shall be under the supervision and control of the State Hospital Board, which shall determine the policies to be followed in the operation and management of the Center and may adopt rules and regulations with respect thereto and concerning the admission of patients to the Center. (1956, c.60.)

§37-25.3. Director and other personnel.—The Commissioner of Mental Hygiene and Hospitals shall appoint, subject to the approval of the State Hospital Board, a director of the Treatment Center, who shall be a physician who is a graduate of a medical school approved by the American Medical Association and who has been engaged in the practice of psychiatry for at least five years. The director shall perform such duties as the State Hospital Board or the Commissioner shall prescribe. Subject to the provisions of chapter 9 (§2-78 et seq.) of Title 2 of the Code, the director may recommend for appointment by the Commissioner all other officers and employees of the Treatment Center. (1956, c.60.)

§37-25.4. Admissions and transfers.—(a) Only mentally ill or emotionally disturbed children under sixteen years of age shall be admitted or transferred to the Treatment Center.

(b) Voluntary admissions shall be made, in the discretion of the director, upon application signed by the parent or parents or legal guardian of the child, which shall be accompanied by a certificate signed by a psychiatrist or physician that, in his opinion, study, care and treatment at the Center would be beneficial to the child. A complete case history shall accompany each such application.

(c) Transfers to the Center may be made as provided in §37-7 with respect to transfers between other institutions under the control of the State Hospital Board. Upon application made by any State department, institution or agency having custody of any child who is mentally ill or emotionally disturbed, such child may, with the approval of the Commissioner, be admitted for study, care and treatment at the Center. (1956, c. 60.)

HIRAM W. DAVIS, M.D., *Commissioner, Department Mental Hygiene and Hospitals, Richmond, Virginia.*

§37-25.5. Duration of care and treatment; children to be in custody and control of director.—No admission or transfer to the Center shall be for a period longer than three months: provided, however, that the director, with the approval of the Commissioner, may discharge or otherwise release a patient as provided by law with respect to other institutions under the control of the State Hospital Board; or may, with such approval, extend the period of study, care and treatment from time to time if necessary. In no event shall a child remain in the Center for more than twelve consecutive months. All children admitted or transferred to the Center shall be in the custody and under the control of the director, who may impose such restraints on any such child as he may deem necessary for the welfare of the child or the proper conduct of the Center. (1956, c.60.)

§37-25.6. Liability for cost of care and treatment.—The parent, guardian or other person legally liable for the support of any child admitted or transferred to the Center shall be liable for the cost of the care and treatment of such child therein to the extent set forth as to the other institutions under the control of the State Hospital Board in article 6 (§37-125.1 et seq.), chapter 3 of this title, which cost may be collected in the manner therein provided. (1956, c.60)

This will be the first of several articles dealing with the new center which should be of interest to The Medical Society of Virginia.

Thyroid and Mental Ills

A functional relationship has been suggested between hyperthyroidism and mental disease. Dr. Ben Bursten, Cincinnati, writing in the March Archives of General Psychiatry, published by the American Medical Association, said:

"While the incidence of hyperthyroidism in a psychotic population is low, there are sufficient cases of psychosis in populations of thyrotoxic patients to suggest a functional relationship between the two disease processes."

Hyperthyroidism is the disease caused by an overactive thyroid gland.

There is no one particular type of psychosis characteristic of the hyperthyroid patient.

"Sometimes the course of the illness suggests that the thyrotoxicosis has precipitated the psychosis, and sometimes it would seem that the anxieties and activity associated with psychotic decompensation has precipitated the thyrotoxicosis."

"A third possibility is that both processes may develop simultaneously as a consequence of psychodynamic shifts."

In many cases, there is probably a joint action between the two diseases.

"Once these processes are started, it is easy to see how they can augment each other." On the other hand, the two diseases do not follow parallel courses.

"This serves to emphasize that even though the two processes may be functionally related, many other etiological factors are involved, and while one process may precipitate the other, it is not necessary for the elaboration or continuation of the symptoms of the other process."

Dr. Bursten based his conclusions on data gathered at Edward J. Meyer Hospital, Buffalo, N.Y., a county general hospital with a large psychiatric unit.

Miscellaneous . . . .

Coercive Health Security

In his Thursday night TV debate with Dr. Edward R. Annis, spokesman for the American Medical Association, CIO President Walter Reuther accused the AMA of having traditionally opposed all forms of collective "health security" projects. The charge was too sweeping, but Mr. Reuther was quite right when he said that the AMA regards all compulsory schemes as converging toward socialism.

The medical profession has ample reason to oppose all *compulsory* health schemes, including federalized medical care for the aged. The AMA is qualified to recognize and diagnose the incipient symptoms of the highly contagious collectivist disease now sweeping the world.

Surely, after the example set by Soviet Russia, the ultimate consequences of *compulsory* security of any sort have become too obvious to require elaboration.

Mr. Kennedy mislabeled his proposal for medical care a "freedom of choice" plan.

"Freedom" would apply only to selection of one's own "doctor and hospital;" there would be no choice so far as submission to taxation is concerned. The proposed levy would be imposed, without exception, on *all* social security-card holders, and the beneficiaries would include not only the indigent, but (as Arthur Krock pointed out in Friday's column) the hypochondriacs, the chiselers and millions of aging who would otherwise be willing and able to pay their doctor and hospital bills.

Like all socialistic mass-panaceas, this one has a humanitarian appeal, and as always, those who oppose it for fiscal, actuarial or moral reasons are certain to be classified as "reactionary."

This massive, cumbersome scheme would not be actuarially sound—even if those who would chip in during their productive lives could be assured that inflation has been halted in its tracks.

With Congress including a large portion of policitians who subscribe to the New Deal's "spend-and-spend, elect-and-elect" philosophy, the tempo of "creeping inflation" is more likely to accelerate in the years ahead.

Worst of all, while the prospect for full medical care of a steadily growing number of the aged is by no means assured under the plan, expectation of it would be conducive to reckless credit-spending, with no thought for the morrow. It would discourage self-sufficiency and saving for the rainy days of old age. It would shatter what's left of the American ideal that every citizen is individually responsible for the *voluntary* preservation of his own security in old age. By removing the necessity of thrift, it would tend to promote inflation.

Because the plan would be coercive, it would lead to acceptance of the leftwing ideology that the state—personified by the centralized government in Washington—is wholly responsible for cradle-to-the-grave security.

—*Richmond Times-Dispatch*

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A Need for Definition

In its various calls to arms to stem the socialistic tide, organized medicine has consistently emphasized the necessity of maintaining "freedom of choice of physician" and the intimate, personal physician-patient relation, or relationship, as it is called by those who prefer long words to short ones. These phrases have assumed an awesome authority within the profession and command an almost humble respect when they are sounded bright and clear throughout the land. Those questioning their basic integrity

or sense—or who even ask plaintively what they mean—are at once suspect and berated for violating the sanctity of democratic gospel.

And yet, as it must to all men who blithely spout slogans and pithy platitudes, there comes a time when interpretations and intentions are questioned and definitions challenged. This may be the time for organized medicine to define, positively and comprehensibly, just what it means by "freedom of choice of physician" and "physician-patient relationship." Without a clear-cut definition of its stand on these two fundamental precepts, organized medicine's crusade can easily founder in the sea of its own semantics. The clear-cut definition must be one that is understood not only by the general public but also, what is more important, by the members of the medical profession who espouse the cause of freedom of choice and the maintenance of the physician-patient relation.

On February 4, 1959, the Council of the Massachusetts Medical Society considered the following questions posed by the Board of Trustees of the American Medical Association: "Is the concept of free choice of physicians to be considered a fundamental principle incontrovertible, unalterable and essential to good medical care without qualification?" "What is your attitude regarding physician participiation in those systems of medical care which restrict free choice of physician?"

The Council voted "no" to the first question. The Council answered the second question as follows:

> The attitude of the Massachusetts Medical Society toward physician participation in systems of medical care that restrict free choice of physician is without qualification that the fundamental incontrovertible and essential obligation of the medical profession is to provide the highest available quality of medical care to the public. If such care is otherwise unavailable, it is not unethical for physicians to participate in such plans, but the plans should be kept under observation, and the principle of free choice should be encouraged wherever possible and consistent with the primary purpose.

During the lengthy debate on these two questions, it was admitted by a few of the debaters that free choice is not in every instance essential to good medical care and that the presence of free choice is no guarantee of good care. The dangers inherent in lay-controlled plans that limit or restrict free choice of physician were emphasized.

Freedom of choice itself, however, was not defined. It is conceivable that because of changing patterns of medical practice, the patient's idea of "free choice" may be quite different from that of the physician. As an example, does the patient believe that he has exercised "free choice" when he places himself in the hands of a group, clinic or panel (open or closed)?

The phrase "maintaining the physician-patient relationship" has been bandied about to such an extent that it defies definition. Despite its vagueness, however, a personal relation is implied. The argument becomes one of how much personal relation is gained or lost through medical care in solo practice, free-choice clinics or panels or in medical-care plans involving third parties and how much personal relation the modern patient actually wants. Does the average modern patient want a sentimental attachment and a shoulder to cry on, or does he prefer a conscientious, well trained, scientific and considerate physician?

Since the patients themselves will determine along what political and economic roads the practice of medicine will travel, the American Medical Association may well consider the feasibility of conducting a scientifically sound survey among patients regarding what they want in a physician, what they consider the ideal physician-patient relation and what they regard as free choice of physician. Along with patients' opinions as guides, organized medicine may be able to define comprehensively and positively freedom of choice and physician-patient relations.

The New England Journal of Medicine 263: 1200, December 8, 1960.

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Woman's Auxiliary....

President — Mrs. F. Clyde Bedsaul, Floyd
President-Elect — Mrs. William F. Grigg, Jr., Richmond
Vice-Presidents — Mrs. Robert Keeling, South Hill
Mrs. Theodore McCord, Fairfax
Mrs. Byron Eberly, Portsmouth
Recording Secretary — Mrs. A. B. Gravatt, Jr., Kilmarnock
Corresponding Secretary — Mrs. J. Glenn Cox, Hillsville
Treasurer — Mrs. James M. Moss, Alexandria
Publications Chairman — Mrs. Custis L. Coleman, Richmond
Directors — Mrs. Walter A. Porter, Hillsville
Mrs. Charles A. Easley, Jr., Danville
Mrs. John R. St. George, Portsmouth

Conference Minutes.

The Third Mid-year Conference of the Woman's Auxiliary to The Medical Society of Virginia was held at the Medical Society Headquarters, Richmond, January 18.

The President, Mrs. F. Clyde Bedsaul, called the meeting to order. The Chaplain, Mrs. Hawes Campbell, gave the invocation, which was followed by the Pledge of Allegiance to the Flag and the Pledge of Loyalty to the Woman's Auxiliary to the American Medical Association.

Mr. Robert I. Howard, Executive Secretary of The Medical Society of Virginia, welcomed us on behalf of the Society.

Mrs. Bedsaul introduced Mrs. Walter H. Buffey, President of the Auxiliary to the Richmond Academy of Medicine, who with other members of the Richmond Auxiliary, was hostess for the conference.

The program was then presented by the following chairmen of committees:

Membership: Mrs. W. F. Grigg, Jr.

Mrs. Grigg stated that we should inform and explain the functions of the auxiliary to those doctors' wives who do not belong to the auxiliary. Three principles of high level membership are (1) harmony, (2) absorbing programs and, (3) understanding the purposes and policies of the Auxiliary to A. M. A.

Finance: Mrs. Walter A. Porter

Mrs. Porter urged the treasurers to send the dues in on time. It is hoped that our membership can be increased so that we may have more funds with which to work.

The roll was called by the secretary. Nineteen officers and chairman were present, ten auxiliaries were represented, and a total of 33 members were present.

Legislation: Mrs. Wyndham B. Blanton, Jr.

Mrs. Blanton introduced Mr. Richard Nelson, Field Representative of A.M.A. who spoke to us on the legislative world that we live in today. Mr. Nelson was a very interesting and well informed speaker and answered several questions at the conclusion of his talk. The importance of repeated letters to Congressmen was stressed and it was agreed that our motto should be "A Wave of Words in 1961".

Leigh-Hodges-Wright: Mrs. Edward S. Ray

Mrs. Ray gave a brief history of this fund and reported a balance of $2,298.21 in the bank.

Community Service: Mrs. Hugh Stokes

Mrs. Stokes urged that we all put emphasis on community service this year.

A.M.E.F.: Mrs. H. L. Bastien

In the absence of Mrs. Bastien, Mrs. Bedsaul reported that token contributions to A.M.E.F. are not enough and that we are asked to give $5.00 per member this year. Since money given is matched by industrial funds, we always get back much more than is given. It is suggested that doctors making contributions to medical schools do so through A.M.E.F. since individual schools may be designated as recipients.

Members-at-Large: Mrs. W. Nash Thompson

Mrs. Thompson stated that we now have 20 members-at-large. These are voting members and pay dues of $3.00.

Historian: Mrs. Byron T. Eberly

Mrs. Eberly exhibited a very beautifully kept scrapbook and urged us to send her

clippings and other mementos for the book.

Publicity: Mrs. Custis Coleman

Mrs. Coleman requested that we send in write-ups of meetings to her promptly so that they may be reported on the Auxiliary page of the Virginia Medical Monthly.

Bulletin: Mrs. C. C. Hatfield

Mrs. Hatfield was not present and Mrs. Bedsaul asked that we all subscribe to and read the Bulletin.

Philanthropic Fund: Mrs. Ralph Landes

Mrs. Landes explained that this fund goes to Sheltering Arms Hospital and the Crippled Children's Hospital both of which receive patients from the entire State of Virginia. Several Auxiliaries have projects to raise funds for these hospitals. Mrs. Buffey reported that the Richmond Auxiliary raised $2,500.00 for Sheltering Arms by conducting a house tour.

Student Loan Fund. Mrs. Lee A. Liggan

Mrs. Liggan reported that the loan fund now has almost $1,000 and asked that some one in each community visit the high schools and tell students about the fund.

The meeting recessed at 1:15 for lunch and resumed at 2 P.M.

Health Education: Mrs. Milton Friedenberg

Mrs. Friedenberg introduces Mr. Herman L. Goldberg, Executive Director of Jewish Family Services, Richmond, who spoke to us on Mental Health for the Three Generation Family.

Councilor to Southern: Mrs. James M. Moss

Mrs. Moss announced that Southern will meet at the Statler-Hilton in Dallas, Texas, November 6-9, 1961, and made suggestions concerning the observance of Doctor's Day. Mrs. K. W. Howard, President of the Southern Auxiliary, spoke of her work so far this year.

The program concluded, the meeting was adjourned at 3 P.M.

RUTH L. GRAVATT,
Recording Secretary

Mid-year Board Meeting Minutes

The Mid-year Board Meeting of the Woman's Auxiliary to The Medical Society of Virginia was held at the Medical Society Headquarters, Richmond, on January 19th.

The meeting was called to order by the President, Mrs. F. Clyde Bedsaul, and the invocation was given by the Chaplain, Mrs. Hawes Campbell.

The roll was called by the Secretary. Present were 16 officers and chairmen and representatives from eleven auxiliaries. The minutes of the pre-convention Board meeting were read and approved as read.

Mrs. Bedsaul recognized the past-presidents who were present, and then made the following appointments:

Reading Committee: Mrs. W. F. Grigg, Jr., Mrs. R. D. Keeling, Mrs. Theodore McCord

Rural Health Chairman: Mrs. C. F. Manges

The following officers gave reports:

President—Mrs. Bedsaul

President-elect—Mrs. Grigg reported progress being made toward the organization of auxiliaries in Williamsburg and Virginia Beach.

1st Vice-president—Mrs. Keeling

Secretary—Mrs. Gravatt

Chaplain—Mrs. Campbell

Treasurer—Mrs. Moss gave this report:

Balance brought forward	$2753.15	
Receipts	418.00	
		$3171.15
Disbursements to 1-17-61	283.60	
on 1-18-61	259.42	543.02
Balance on hand 1-19-61		$2628.13

Of which $942.00 is the Student Loan Fund.

The Chairman of the Auditing Committee, Mrs. Robert H. Anderson, of Alexan-

dria, reported the books in perfect order and made a motion that the President's travel expense allotment be increased from $700 to $1,000. Seconded by Mrs. Buffey. After discussion the motion was not carried by a vote of 8 for to 14 against. Mrs. Porter moved, seconded by Mrs. McCord, that this matter be referred to the finance committee for consideration. Motion carried.

The following county auxiliaries reported:

Alexandria—Mrs. Anderson
Arlington—Mrs. R. L. Norment
Danville-Pittsylvania—Mrs. J. R. Eggleston
Fairfax—Mrs. McCord reporting for the president.
Fourth District—Mrs. Whittle's report read by the secretary.
Lynchburg—Mrs. Morris's report read by the secretary.
Newport News—Mrs. M. L. Horne, president-elect.
Norfolk—Mrs. J. T. McFadden
Portsmouth—Mrs. Roy R. Powell
Richmond—Mrs. W. H. Buffey
Southwestern—Mrs. George Kelley

Mrs. Bedsaul stated that the national report blanks will be sent to state chairmen soon and to please fill out and return promptly. It was requested that all chairmen and presidents of auxiliaries make complete reports of all their work before leaving office and mail reports to the president. The secretaries of local auxiliaries were asked to send names of deceased members to the president by May 1st. Final annual reports must be in the president's hands not later than August 15, 1961.

Mrs. Carl Parker, chairman of the nominating committee, reported that the committee has met and asked for recommendations for the various offices. The slate should be complete and sent to the President-elect, Mrs. Grigg, by June 1, 1961.

Mrs. Bedsaul asked that we save time for auxiliary work and not become too involved with other activities, so that we may say "yes" when asked to serve by the nominating committee.

The subject of Honorary members was discussed in response to a question by Mrs. Eggleston of Danville-Pittsylvania. Honorary members pay no dues. Their state and national dues are paid by the local auxiliary. We have one state Honorary member, Mrs. William Lett Harris of Norfolk.

The Treasurer, Mrs. Moss, asked that local treasurers please transcribe to the back of the treasurer's cards each year, the offices held by the members.

The President-elect, Mrs. Grigg, suggested that in the future Presidential visits to auxiliaries be made in the Fall so that the information from the Presidents' Conference can be given to the auxiliaries while it is current and of benefit to them during the year.

Mrs. Bedsaul thanked Mrs. Buffey and the Richmond Auxiliary for making the arrangements for the conference and Board meeting.

A note from Mrs. R. W. Howard thanking the auxiliary for the silver plates, presented to her on the occasion of her becoming President of the Southern Auxiliary, was read by the Secretary.

Ruth L. Gravatt
(Mrs. A. B. Gravatt, Jr.)
Recording Secretary

Alexandria.

The popular guitarist, Charlie Bryd, provided an exceptionally pleasant and relaxing afternoon's entertainment for the Alexandria Medical Auxiliary on February 21st at the home of Mrs. Harrison Picot. Following the luncheon served by Mrs. James Gilbert, Mrs. H. Glenn Thompson and Mrs. Picot, the members of the Auxiliary settled themselves comfortably in the living room to enjoy Mr. Bryd's classic guitar. In his opinion, the guitar is best suited to this type of setting, and, in fact gained its first popularity in the 16th century, in Spain, as a "parlor instrument".

Interspersing his playing with a history of the guitar, Mr. Bryd, who is leaving soon on

a concert tour of South America, included in his musical program two pavans, a Luis Milan, Prelude and Gavotte, Etude in B Minor, a Fernando Sor, and Sonta Paganini.

A short business meeting followed, presided over by Mrs. Robert Anderson. Natalie Baum pointed out that the recent increase in unemployment in the community would undoubtedly mean a greater need for shoes in the community and suggested an immediate all-out effort to increase our stock of children's shoes at the Shoe Center.

A covered dish supper was held on February 11th at the home of Dr. and Mrs. John Hoyle with about 15 in attendance, in spite of the snow.

JEAN C. MURPHY.

Meanest Sharpies in World

Medical mail-order quacks were termed the "meanest sharpies in the world" in an expose in the March Today's Health magazine, published by the American Medical Association.

"Peddling useless drugs, fake 'remedies,' and bizarre therapeutic gadgets via the U.S. mails is a lucrative source of income for some of the meanest sharpies in the world. These human vultures feed on the ignorance and hopes of men and women who yearn for the 'miracles' that legitimate medicine thus far has been unable to provide."

The U.S. Postal Inspection Service was credited with preventing mail-order quackery from becoming possibly the greatest swindle of all time. However, last year the American public was bilked out of $50 million by mail-order frauds.

"For the most part, medical mail-order frauds operate on two related theories: Some people will pay anything for a promised 'miracle,' and a certain percentage of suckers can be found on almost any mailing list.

"Accordingly, high on the gyp parade are preparations and devices that appeal to vanity, and 'cures' or treatments for ailments for which no effective treatments are known. These range from bosom developers and 'dietless' reducing schemes based on pills, tonics, and gadgets to the most tragic of all nostrums, 'cures' for victims of heart disease, arthritis, rheumatism, and cancer."

The mail-order quack, no matter how harmless his cure or gadget, is a potential killer. Mail-order quackery causes misery, injury, and death by delaying early and proper treatment by a physician. "Time after time, postal inspectors have seen such delays spell the difference between life and death."

A current danger is the widespread traffic in appetite depressants, pushed as schemes for dietless reducing.

"Without exception, these mail-order 'diet' plans are worthless or misleading. What's worse, the most vulnerable suckers on the mailing list are those who have ailments frequently associated with obesity—diabetes, thyroid disease, and heart, liver, and kidney trouble. For these hapless victims, dieting without a physician's guidance, like almost any form of self-medication, is fraught with danger."

Avoiding mail frauds can be a simple matter of regarding any therapy, device, treatment, remedy, or cure sold by mail with suspicion, especially if it makes sweeping claims. "In any case, your best protection is your own doctor. If you think it's something he may not have heard about, he can look into it a lot quicker and more reliably than you can."

The article was written by Harry Kursh.

Editorial . . . .

Quality Control in the Practice of Pathology

THE CONFIDENCE placed by the medical profession in the results of laboratory tests is a challenge to the practice of pathology. A modern laboratory is expected to live up to standards of accuracy, reproducibility, specificity and general dependability to justify the reliance placed upon it by the various and numerous requests.

To meet this challenge, an increased emphasis on quality control developed in recent years. The concept of quality control is not new. The term, however, was recently borrowed from industry where it is an important aspect of the productive effort.

Quality control as adapted to laboratory medicine deals with the following areas: (a) personnel, (b) equipment, (c) reagents, and (d) methods.

Personnel: It is perfectly obvious that complete automation of laboratory procedures is not anywhere in sight, and reliance on the competence, intelligence and integrity of laboratory personnel will be necessary for many years to come. Each department of a well run laboratory is supervised by a medical technologist who pursued the proper college curriculum and was trained in an approved school of medical technology under the sponsorship of the American Society of Clinical Pathologists. They have passed a comprehensive test organized by the registry of Medical Technologists (A.S.C.P.) and are pledged to a strict code of ethics. Their training and work are supervised by a specialist in pathology. They perform the more exacting laboratory procedures, check the accuracy and suitability of instruments, detect flaws in procedures and act with the director of the laboratory as a quality control team.

Ancillary laboratory personnel working under the supervision of technologists are entrusted with tasks which are less exacting as far as the educational background is concerned. Most of their activities are of a routine and repetitious nature. This fact, however, does not constitute any compromise to accuracy and meticulous attention to technical details of each procedure.

Professional integrity of the personnel is a most essential requisite. Any technician who encounters difficulties in the execution of his task should be the first one to call attention of his supervisor to his problem.

"Covering up" by making the tests "fit" each other or the technician's concept of the clinical picture is a modification of the old-fashioned "sink test" and cannot be tolerated. Any technician indulging in this practice has no place in a medical laboratory.

Proper motivation of the laboratory personnel is essential to good morale and proper function of a laboratory. A technician should be acquainted as much as possible with the importance of his work in the "bigger picture". Technicians should be invited, at least occasionally, to medical staff meetings particularly where laboratory tests are discussed in reference to the solution of a clinical program. This experience tends to develop the self-respect and their respect for their work, both important ingredients of proper motivation.

The proficiency of the laboratory personnel is maintained and advanced by participation in periodic proficiency surveys conducted by the Commission on Continuing Education of the American Society of Clinical Pathologists. "Unknowns" with problems in bacteriology, parasitology, clinical chemistry, hematology, etc., are sent to participating laboratories by reference laboratories. The problems are followed by an instructive critique. Workshops and refresher courses organized by state, regional and national societies of pathologists and medical technologists are also an important tool in maintaining and improving the personnel standards of modern laboratories.

Equipment: Adequacy of laboratory equipment is a constantly recurring problem. Even simple instruments such as pipettes, urinometers, etc., frequently fail to measure up to standards of accuracy and have to be checked and recalibrated or discarded.

Some pieces of equipment loose their accuracy after prolonged use. A paper scale enclosed in the urinometer neck may slip down and cause inaccurate readings of specific gravity. A cuvet may accumulate enough scratches in the course of repeated washings until its optical adequacy is significantly reduced and the readings of an otherwise accurate spectrophotometric device become erroneous.

Cleanliness of equipment is an important factor. A dirty pipette fails to deliver the required amount of filtrate or reagent and interferes with accuracy and reproducibility of results.

Reagents: Reagents should be prepared from chemically pure ingredients or purchased from reliable manufacturers where preparation of the reagents within the laboratory is impractical for a variety of reasons. In either case, the adequacy of each batch of reagents should be tested against known standard solutions.

Preparation of standard solutions may be a gigantic task. The development of a certified standard for use in determination of hemoglobin consumed years of research by a special panel organized in 1954 by the Division of Medical Sciences—National Research Council. The panel consisted of representatives of several medical schools, National Institutes of Health, National Bureau of Standards, Walter Reed Army Institute of Research, College of American Pathologists, American Society of Clinical Pathologists and National Research Council of Canada. After extensive field trials involving more than a thousand laboratories, the panel adapted a cyanmethemoglobin standard devised by Drabkin. In 1958, the final proposal was made by the Division of Medical Sciences—National Academy of Sciences—National Research Council.[1]

Other standard solutions are supplied by the College of American Pathologists and by some manufacturers of laboratory reagents.

Methods: The choice of methods for use in medical laboratories is usually the task of the pathologist. A method has to meet requirements of accuracy, specificity and reproducibility. It must also be reasonably simple. A complicated procedure introduces many variables and thus potential sources of error. A method should also be rapid. A time consuming method may deliver accurate results too late to be of practical value in the clinical management of a case. The method as well as the equipment should be tested against various strengths of reliable standard solutions on several occasions to insure reproducibility. It is desirable, particularly with procedures that are used infrequently, to run each test in duplicate or triplicate simultaneously with a standard solution.

Quality control is not a static situation where the laboratory personnel complacently adheres to a set of practices no matter how well they were thought out.

Quality control demands constant vigilance by every member of the laboratory team. It requires meticulous attention to details, initiative and ingenuity in devising new methods or inventing new applications for old methods.

Simon Russi, M.D.

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1. Cannan, R. Keith: Proposal for a Certified Standard for Use in Hemoglobinometry. Am. J. Clin. Path. 30: 211-215, September 1958.

Current Currents

H.R. 4222: Now that the lines have been drawn and the battle is on, it may indeed be well to take another look at the administration's bill to tie health care for the aged to the Social Security system. Surely every physician should be thoroughly informed concerning this bill and thus be in position to point out the threat which it poses, not only for the profession, but for every American.

The bill would amend the Social Security Law by adding a new title (XVI) under which in-patient hospital services, skilled nursing home services, home health services, and out-patient hospital diagnostic services would be provided to any individual over age 65 who is entitled to monthly insurance benefits under title II of the Social Security Law or under the Railroad Retirement Act, whether or not they are receiving them.

The services provided under the bill may be broken down as follows:

Up to *90 days of in-patient hospitalization* in semiprivate accommodations (two-, three- or four-bed) subject to a deductible of $10 for each of the first nine days of hospitalization, with a minimum deduction of $20.

Up to *180 days of skilled nursing home services,* but the combined in-patient hospital services and skilled nursing home services could not exceed 150 units of services furnished during a "benefit period".

Home health services up to a maximum of *240 visits* during a calendar year (includes such services as intermittent nursing care therapy).

Out-patient hospital diagnostic services which would be subject to a deductible of $20 for each complete diagnostic study.

A "unit of service" would be equal to one day of in-patient hospital services or two days of skilled nursing home services. Thus, an individual who remained in a hospital for 90 days would be eligible for an additional 120 days of skilled nursing home care after his hospitalization.

There are many sound arguments against this proposal. It would create a huge Federal bureaucracy from which no good can come; it is actually unnecessary since the Kerr-Mills law, once implemented by the States, will meet the needs of the needy aged; it would probably destroy private voluntary health insurance plans and would undoubtedly be extended to provide *all* professional services to *all* persons of *all* ages—in other words complete compulsory government health insurance.

In order to meet the cost of the program, the wage base subject to Social Security taxes would be increased in 1962 from $4,800 to $5,000. The tax rate would be increased as follows:

	Self-Employed		*Employee-Employer (each)*	
	Present	*Proposed*	*Present*	*Proposed*
1962	4½%	4½%	3 %	3 %
1963-65	5¼%	5⅝%	3½%	3¾%
1966-68	6 %	6⅜%	4 %	4¼%
1969 & thereafter	6¾%	7⅛%	4½%	4¾%

It should be pointed out that H.R. 4222 does not cover physicians' services in office, home or hospital. It seems safe to predict, however, that should the bill be enacted, the very next step would be to include professional services.

AMA ANNUAL MEETING: The 110th Annual Meeting of the American Medical Association will bring an estimated 50,000 persons, including 25,000 physicians, into New York City from June 25-30.

The five day convention, referred to as the "world's fair of medicine", will attract not only physicians, but also their wives and families, internes, residents, exhibitors and many others connected with medicine and its allied fields.

All four floors of New York's big Coliseum will be needed for the 827 technical and 350 scientific exhibits. More than 2,000 physicians will take part in the scientific program designed to keep physicians current. Teaching mediums will include lectures, symposiums, panel discussions, movies and closed circuit TV.

Physicians will be particularly interested in the expanded physical examination booth on the third floor of the Coliseum. During the Meeting at Miami Beach last year, 20% of the 1,328 physicians examined were found to have heart abnormalities. This represented twice the average for the general population. Of the 1,008 doctors taking chest X-rays, 14% were found to have abnormalities.

DID YOU KNOW: In 1923, only 11 per cent of all physicians limited their practice to a specialty, while today full-time specialists comprise 38 per cent of all physicians.

The total disability from last year's 13,800 deaths and 1,960,000 work injuries represents approximately 167 million man-days of disability, the equivalent to a year's full-time employment of some 540,000 workers.

News Notes . . . .

New Members.

Since the list published in the March issue of the Monthly, the following new members have been received into The Medical Society of Virginia:

Chee Kong Chu, M.D., Catawba
Wirt Lee Davis, M.D., South Hill
James Edward Etheridge, Jr., M.D., Charlottesville
John Stevenson Fletcher, M.D., Williamsburg
Walter J. Geeraets, M.D., Richmond
James Raymond Berry Hutchinson, Jr., M.D., Richlands
Robert Lionel Kent, M.D., Wise
John H. Kliwer, M.D., Charlottesville
James Richmond Low, M.D., Fredericksburg
Gerhard H. Lukowsky, M.D., Alexandria
Eugene Davis Nolley, M.D., Churchville
James C. Rahman, M.D., Walkerton
David Wesley White, M.D., Charlottesville
Arthur William Wyker, M.D., Charlottesville

Correction.

In an article on "The Problem of Treatment of Atherosclerosis" by Drs. Homer A. Sieber, William D. Poe, and James E. Wheless, Roanoke, which appeared in the August 1960 issue of the Monthly, the statement was made that CLARIN is used "sublingually four times a day at a cost of about $40.00 per month". Thomas Leeming & Company, manufacturers of this product, advise that there are two errors in this statement. The suggested dosage is three times a day and as the patient pays 20¢ per tablet for Clarin at retail, the monthly cost would be $18.00.

Dr. Swineford Honored.

Dr. Oscar Swineford, Jr., member of the medical faculty at the University of Virginia for more than thirty years, has been honored by the establishment of the Oscar Swineford Allergy Fund. Announcement of the carefully guarded secret was made at a dinner meeting of the Walter Reed Army Hospital Officers' Club held in Washington.

Over the past twenty years almost forty physicians have received postgraduate training at the University of Virginia Allergy Clinic under Dr. Swineford's direction. These former fellows, who are now working in all sections of the United States and in several foreign countries, have joined together in the project to honor Dr. Swineford and to promote the teaching of Allergy at the University. The income from the fund is to be used to support a lecture, to establish a fellowship, to purchase books and journals of importance in the field of allergy, or in other appropriate ways to promote the graduate or undergraduate teaching of allergy. Over $10,000 has already been pledged to the fund.

At the conclusion of the dinner, Dr. and Mrs. Swineford were presented with a Paul Revere silver bowl.

Dr. Showalter Honored.

Masons from Christiansburg and Western Virginia recently paid tribute to Dr. A. M. Showalter for a half century of service to Masonry. He is the oldest living past grand master of Masons in Virginia and was presented a plaque, two scrolls, a biographical pamphlet, a 50-year service pin and a gavel. In recognition of his work in the Masonic world, Dr. Showalter has been made an honorary member of the Lakeland Lodge in Roanoke, Floyd Lodge, and Hellenic Lodge in Richmond.

Dr. Marston to Assume New Post.

Dr. Robert Q. Marston, assistant dean of the Medical College of Virginia, has been

named director of the University of Mississippi Medical Center and dean of the medical school, effective July 1st.

Dr. Vincent Archer,

Retiring head of the department of radiology at the University of Virginia, was recently honored by the Virginia Radiological Society. His career was reviewed and he was presented with antique glassware, a gift from the Society.

Chairman of Department of Radiology.

Dr. Richard G. Lester will assume the chairmanship of the Department of Radiology of the Medical College of Virginia in April. He has been a member of the medical faculty of the University of Minnesota since 1954 and associate professor of radiology since 1959.

Dr. Peter N. Pastore,

Richmond, addressed the Atlanta Graduate Medical Assembly at its meeting held in February. He gave four lectures.

Dr. Thomas S. Ely,

Big Stone Gap, has been appointed to Kazim Temple as Outer Guard. He is a past president of the Powell Valley Shrine Club.

Dr. T. Elmore Jones,

Portsmouth, has assumed the post of city school physician, succeeding Dr. R. M. Cox. Dr. Cox resigned after 22½ years of service.

Dr. Edwin L. Kendig, Jr.,

Richmond, has been appointed to the Board of Visitors of the University of Virginia.

Northern Virginia Clinical Assembly.

The Annual Assembly will be held on April 9th at the Kenmore Junior High School, Arlington. The following program is being presented by speakers from Yale University, School of Medicine: Control of Staphylococci in the Nursery by Dr. Louis Gluck, Assistant Professor of Pediatrics; Reversible Renal Failure by Dr. Howard Levitin, Assistant Professor of Medicine; Diagnosis of Parotid Tumefaction by Dr. Donald P. Shedd, Assistant Professor of Surgery; and Use of Newer Progestational Compounds by Dr. Walter Herrmann, Assistant Professor of Obstetrics and Gynecology. There will also be a Clinical Pathological Conference with discussion by Dr. Levitin and comment by Dr. Shedd.

Stoneburner Lecture.

The Fourteenth Annual Stoneburner Lectures Series was held at the Medical College of Virginia, March 15-17. A Symposium on Immune Mechanisms in Medicine was held in conjunction with the Lectures. Dr. Lewis Thomas, Professor and Chairman of the Department of Medicine, New York University School of Medicine and Director of the 3rd and 4th Medical Divisions of Bellevue Hospital, was Guest Lecturer.

Mrs. Regirir Appointed to Commission.

Governor Almond recently announced the appointment of Mrs. Gene Clark Regirir, Administrator of Mrs. Plyler's Nursing Home, to the Virginia Commission on the Aging. She is currently president of the Licensed and Practical Nurses Association of Virginia, Area 5, and is well qualified for her new assignment, having worked closely with our elder citizens for a number of years.

Annual Spring Congress.

The thirty-fourth Annual Spring Congress of the Gill Memorial Eye, Ear and Throat Hospital, Roanoke, will be held April 3-8, at the Patrick-Henry Hotel. The following are members of the Faculty: Dr. Rudolf Aebli, New York; Dr. Allen Barker, Roanoke; Dr. Windsor S. Davies, De-

troit; Dr. R. M. Fasanella, New Haven, Conn.; Dr. Robert L. Goodale, Boston; Dr. Thomas Hedges, Philadelphia; Dr. Chevalier Jackson, Philadelphia; Dr. George Knauf, Patrick Air Force Base, Florida; Dr. Arthur Linksz, New York; Dr. George Murgatroyd, Baltimore; Dr. Donald F. Proctor, Baltimore; Dr. James Purnell, New York; Dr. Bernard Schwartz, Brooklyn; Dr. Ben H. Senturia, St. Louis; Dr. Benjamin H. Shuster, Philadelphia; Dr. Harold Syrop, Richmond; Dr. Frederick Theodore, New York; Dr. William P. Tice, Roanoke; and Dr. H. P. Wagener, Rochester, Minn.

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Obituaries . . . .

Dr. William Levi Old,

Prominent physician of Norfolk, died January 30th at the age of ninety-two. He was a native of North Carolina but lived most of his life in Norfolk and graduated in medicine from the University of Virginia in 1894. Dr. Old served as a major in the Virginia Volunteer Unit Medical Corps in the Spanish-American War. He then returned to Norfolk for practice. Upon his retirement, Dr. Old made his home at London Bridge.

Dr. Old was a charter member of the American College of Surgeons and had been a member of The Medical Society of Virginia for sixty years.

His wife and a son, Dr. William Levi Old, Jr., survive him.

Dr. Hugh W. Smeltzer,

Prominent Washington County physician, died February 1st. He was eighty-one years of age and received his medical degree from the University of Maryland in 1909. Dr. Smeltzer had maintained offices and practiced in Abingdon and Greendale for the past fifty-two years. He had taught Sunday School at the Greendale Methodist Church for the past thirty-five years.

Dr. Smeltzer had been a member of The Medical Society of Virginia for thirty-three years.

His wife, a son and a daughter survive him.

Dr. Berkeley.

It is with great sorrow that we record the passing of our esteemed colleague, Dr. Greeneville Ramsey Berkeley.

He was born in 1883 in Jackson, Tennessee, the son of Captain Edmund and Julia Ramsey Berkeley. His father being an executive of the Seaboard Airline, Dr. Berkeley's early education was obtained in Greensboro, N.C., Columbia, S.C., Richmond, Va., and Atlanta, Ga. In 1903 he received his A.B. degree from the University of North Carolina. In 1906 he graduated from Jefferson Medical College in Philadelphia being awarded the highest honors in his class. He returned to the University of North Carolina for a year as Instructor in Anatomy and in 1907 he came to Norfolk and interned at the Norfolk Protestant Hospital before establishing his private practice in general medicine and surgery.

In earlier years Dr. Berkeley was active in sports, played quarterback for North Carolina, was on the track team at Jefferson, and third baseman on the Norfolk Doctor's Team in 1908.

He was married in 1911 to former Mildred McKee Jones of Raleigh, who predeceased him in 1946. Surviving are his son Greeneville R. Berkeley, Jr., Commander U.S. Navy, and a daughter Mrs. Arthur J. Hall, Jr., both of London Bridge.

Dr. Berkeley was a member of the Norfolk County Medical Society, The Medical Society of Virginia, the Industrial Medical Society, and Life Member of the

Old Dominion Chapter of the Telephone Pioneers of America, and the American Medical Association.

In addition to the responsibilities of a large private practice Dr. Berkeley was a surgeon for the Seaboard Airline, the Old Bay Line, the C&P Telephone Company, and was also chief examiner for several insurance companies and physician for the Norfolk City jail.

Although retired from practice for several years, the memory of his devoted service to his many patients will long survive.

We, the members of this Society desire to pay tribute to the memory of our esteemed and beloved colleague.

Therefore Be It Resolved that this expression of our feeling be recorded in the records of this Society.

Be It Further Resolved to send a copy of this resolution to the members of his family and to the Virginia Medical Monthly.

W. Arthur Porter, M.D.,
C. L. Harrell, M.D.

Dr. May.

Whereas the passing of Dr. James T. May has prematurely removed from the Norfolk County Medical Society one of its esteemed members,

Be It Resolved that we, the members of the Norfolk County Medical Society, feel that a great loss has been suffered by the death of this member, both as a member of the Society and a friend of the surviving members.

Dr. May was born in Bedford County on December 1, 1919. He attended the Medical College of Virginia from which he received hs degree in June 1945. He served his internship and his residency at DePaul Hospital. He entered the United States Naval Reserve, Medical Corps, serving from 1946 to 1948.

He was a member of the Phi Beta Pi, Medical, and Kappa Psi Pharmacy. He was a member of the Norfolk County Medical Society from 1951 until his death, and a member of The Medical Society of Virginia from 1956.

At the time of his sudden death he had full medical privileges at DePaul Hospital, Norfolk General Hospital, and Leigh Memorial Hospital.

Be It Resolved, that we feel that the Society has lost a valuable doctor by the death of Dr. May,

And Be It Resolved, that a copy of these Resolutions be placed in the records of the Norfolk County Medical Society, and a copy of these resolutions also be sent to his family.

John W. Oast, M.D., *Chairman.*
John Vann, M.D.

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1. Krantz, J. C., Jr., and Carr, C. J.: The Pharmacologic Principles of Medical Practice, Baltimore, The Williams & Wilkins Company, 1958, p. 843.

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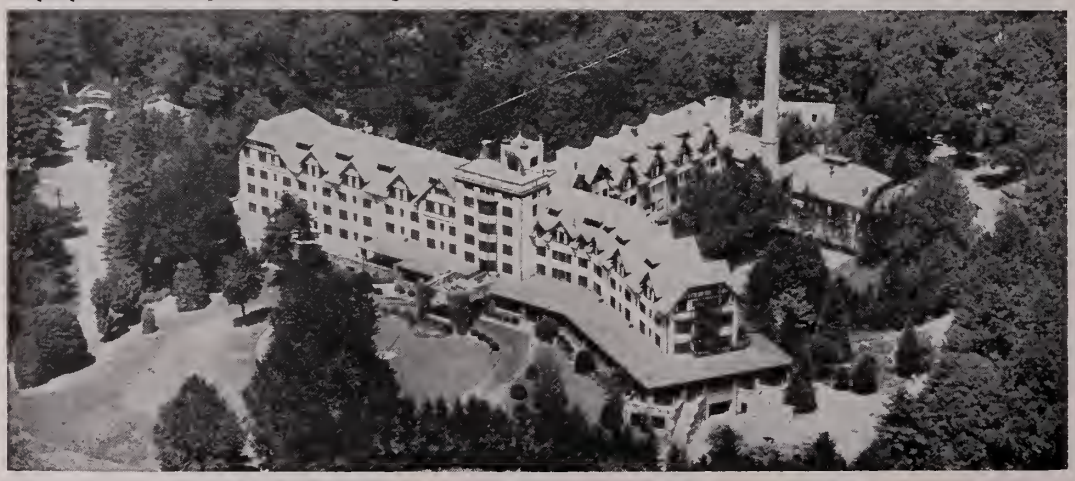

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Dosage: One or two 200 mg. tablets three times a day. Children, age 6 to 16, one or two 100 mg. tablets two times a day. Administration limited to three months' duration.

Supplied: 200 mg. yellow scored tablets, and 100 mg. pink tablets, each in bottles of 100 and 500.

P.S. For the "Genericist", Dornwal is amphenidone

No absolute contraindications to the use of Dornwal are known. There have been no reports or evidence of habituation, addiction or drug tolerance in animal or clinical studies. Dornwal is relatively free from untoward effects when administered at recommended dosages.

Maltbie Laboratories Division,
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sedative-
enhanced
analgesia

for more satisfactory relief of anxiety-aggravated pain

PHENAPHEN®

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- More effective than a standard A.P.C. preparation for relief of moderate to severe pain.[2]

Each PHENAPHEN *capsule contains:*

Acetylsalicylic acid (2½ gr.)	162 mg.
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Phenobarbital (¼ gr.)	16.2 mg.
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PHENAPHEN with CODEINE PHOSPHATE ½ GR. (32.4 mg.) Phenaphen No. 3

PHENAPHEN with CODEINE PHOSPHATE 1 GR. (64.8 mg.) Phenaphen No. 4

Bottles of 100 and 500 capsules.

1. Meyers, G. B.: Ind. Med. & Surg. 26:3, 1957. 2. Murray, R. J.: N. Y. St. J. Med. 53:1867, 1953.

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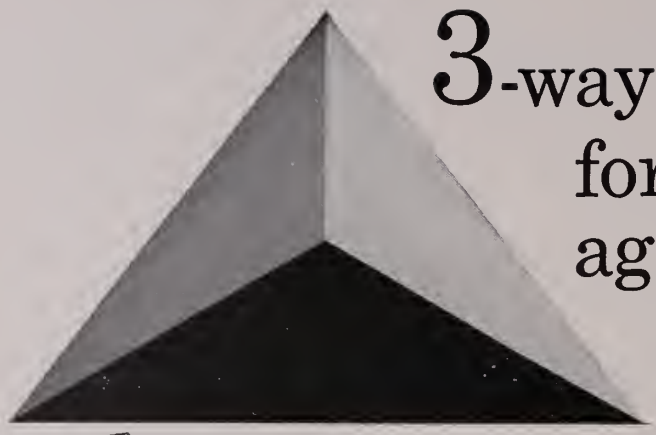

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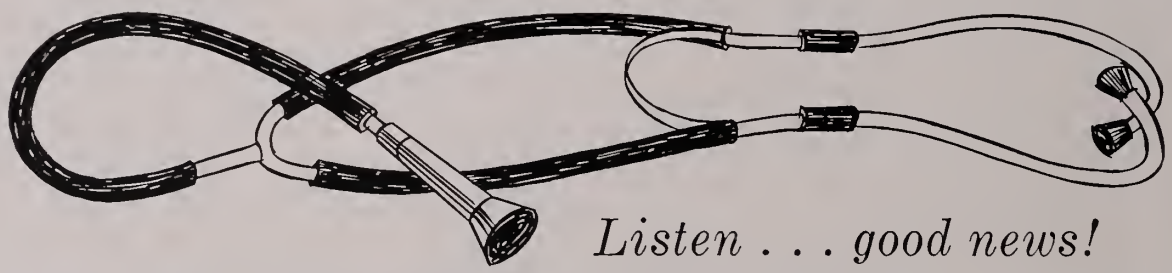

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satisfactory results in 88% of cases

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Because many patients need take only 1 tablet daily, therapy with MIDICEL is convenient and economical. It is also advantageous since the possibility of omitted doses is reduced. Rapidly absorbed and slowly excreted, MIDICEL assures dependable bacteriostatic action in urinary tract infections, certain respiratory infections, bacillary dysenteries, as well as surgical and soft-tissue infections caused by sulfonamide-sensitive organisms. And with MIDICEL, there is little likelihood of crystalluria because of its high solubility and low dosage.

MIDICEL (sulfamethoxypyridazine, Parke-Davis), 3-sulfanilamido-6-methoxypyridazine. Tablets of 0.5 Gm.; Suspension, each cc. containing 50 mg. of sulfamethoxypyridazine as the N'-acetyl derivative. *Indications:* Gram-negative and gram-positive infections such as urinary tract, respiratory, and soft-tissue infections and bacillary dysenteries. *Dosage:* Orally once a day until asymptomatic for 48 to 72 hours. Adults:—1 Gm. initially, followed by 0.5 Gm. daily thereafter or 1 Gm. every other day. In severe infections, not to exceed 2 Gm. the first day, then 0.5 to 1.5 Gm. daily according to weight of patient and severity of infection. Children:—30 mg. per Kg. the first day, then 15 mg. per Kg. daily. In severe infections, up to 50 mg. per Kg. initially, then 25 mg. per Kg. daily. Total dose in children, however, should not exceed lower dosage limits for adults. *Precautions:* Continue daily doses higher than 0.5 Gm. no longer than three to five days without checking for blood levels above therapeutic range. Maintain adequate fluid intake during therapy and for 48 to 72 hours afterward. Until further definitive information is available, MIDICEL, in common with all sulfonamides, is contraindicated in the premature and newborn infant. Contraindicated in patients with a history of sulfa sensitivity. MIDICEL is not recommended for meningococcal infections. *Side Effects:* Anorexia and lassitude may occur as may reactions such as drug fever, rash, and headache, all of which are indications for discontinuing the drug. Leukopenia has been reported. Periodic blood counts are advised. Patients with impaired renal function should be followed closely since excessive accumulation may occur. *Available:* Quarter-scored tablets of 0.5 Gm., bottles of 24, 100, and 1,000.

60181

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Cobalamin (Vitamin B_{12})	4 mcg.
Calcium Pantothenate (as calcium pantothenate racemic)	20 mg.
Ascorbic Acid (as sodium ascorbate)	500 mg.
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Liver Fraction 2, N. F.	75 mg.

Supplied in bottles of 100 and 1000

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Filmtab coatings protect this full range of Abbott nutritional supplements:

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Therapeutic formulas for more severe deficiencies—illness, infection, etc.

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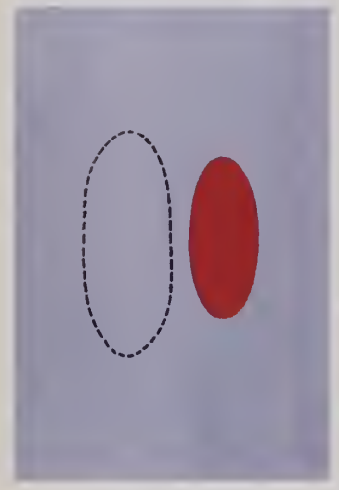
Filmtab® Coating Advantages in a Nutshell



Tablets are easier to swallow, up to 30% smaller.

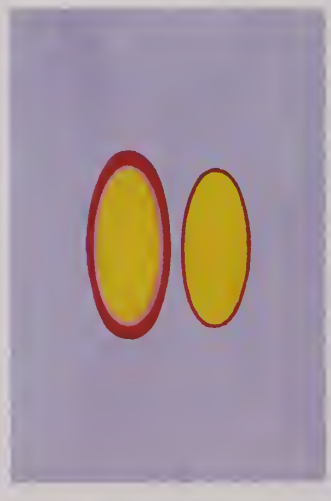
Vitamin after-taste and odor are eliminated.

Tablets are pleasant tasting, non-caloric, come in a rainbow of cheerful colors.

Breakage and cracking are less likely. (Sugar coatings are crystalline, and more brittle.)

In contrast with sugar coatings, no water is used in manufacture.

This eliminates the need of protective subseals, and chances of moisture seepage through imperfections.



Absorption is speeded as sugar's bulk and subseals are eliminated.

Vitamins are readily available at proximal receptor sites.

NET RESULT: Potency is assured for a longer time. The patient gets what he pays for—and what you prescribe.

ABBOTT

FILMTAB—FILM-SEALED TABLETS, ABBOTT ©1961, ABBOTT LABORATORIES 103029 B

Why Homer Jackson's work is important to you...

Talking on the radio-telephone is Homer "Bud" Jackson, both a scientist and a hard-working buyer for a company processing Florida oranges into frozen juice concentrate.

He has just made a decision that's important to you. He has analyzed some sample oranges from the grove in the background and found that they have the optimal amount of sugar, of acid, and are of the proper texture. (Testing for vitamin C comes later.) Homer Jackson knows that these oranges are of a quality to meet the exacting regulations required by the Florida Citrus Commission.

These standards for quality in citrus products are the highest in the world. This is important to you and your patients because juice made from the best oranges will be nutritionally best for your patients. It will contain abundant amounts of vitamin C and rich, natural fruit sugars.

It's good nutrition to encourage people to drink orange juice. It makes good sense to persuade them to drink orange juice that you *know* tastes good, has the right sugar-acid ratio, and is packed full of nutritionally important vitamin C.

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RESULTS
SOONER
AND MORE
EFFICIENTLY
IN MANY CASES OF
acne
keratolyzes cornified
follicle openings
...relieves excessively
dry, scaly skin
in chronic eczema

faster, more complete absorption because microscopic aqueous vitamin A particles pass through intestinal barrier more readily...

superior utilization because natural vitamin A is directly utilized physiologically.

more effective because aqueous, natural vitamin A produces higher blood levels faster, and may diffuse more readily into affected tissues.

good tolerance because "burping" and allergenic factors have been removed.

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Bottles of 100, 500 and 1000 capsules.

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Proven

in over six years of clinical use and more than 750 published clinical studies

Effective

for relief of anxiety and tension

Outstandingly Safe

1 simple dosage schedule produces rapid, dependable tranquilization without unpredictable excitation

2 no cumulative effects, thus no need for difficult dosage readjustments

3 does not produce ataxia, change in appetite or libido

4 does not produce depression, Parkinson-like symptoms, jaundice or agranulocytosis

5 does not impair mental efficiency or normal behavior

Miltown®

meprobamate (Wallace)

Usual dosage: One or two 400 mg. tablets t.i.d.
Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets; in bottles of 50.

Also supplied in sustained-release capsules . . .

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Available as Meprospan-400 (blue-topped *sustained-release* capsules containing 400 mg. meprobamate), and Meprospan-200 (yellow-topped *sustained-release* capsules containing 200 mg. meprobamate).

CM-4236

WALLACE LABORATORIES / *Cranbury, N. J.*

Sun. Mon. Tue. Wed. Thur. Fri. Sat.

Dosage: 2 Tablets B.I.D. (A.M. & P.M.)

[redacted]

in premenstrual tension only neo Bromth® treats the whole syndrome

It was the introduction of neo Bromth several years ago that created such widespread interest in the premenstrual syndrome—because of neo Bromth's specific ability to prevent the development of the condition in the first place.

The action of neo Bromth is not limited merely to control of abnormal water retention, or of nervousness, or of pain—or any other single or several of the multiple manifestations characteristic of premenstrual tension. neo Bromth effectively controls the *whole* syndrome.

neo Bromth is also completely free from the undesirable side effects associated with such limited-action therapy as ammonium chloride, hormones, tranquilizers and potent diuretics. neo Bromth has continued to prove to be the safest—as well as the most effective—treatment for premenstrual tension.

Each 80 mg. tablet contains 50 mg. Pamabrom, and 30 mg. pyrilamine maleate. Dosage is 2 tablets twice daily (morning and night) beginning 5 to 7 days before menstruation. Discontinue when the flow starts.

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Rautrax-N lowers high blood pressure gently, gradually . . . protects against sharp fluctuations in the normal pressure swing.

Rautrax-N offers all the advantages of Raudixin, Naturetin and potassium chloride in a single dosage form *plus: increased efficacy* – Combined action of Raudixin and Naturetin results in a potentiated antihypertensive effect greater than that produced by either drug alone. *increased safety* – Potentiated action permits lower dose of other antihypertensive agents, thus reducing severity of side effects. Protection against possible potassium depletion. *flexibility* – Interchangeable with either Raudixin or Naturetin c̄ K. *economy* – Maintenance dosage of only 1 or 2 tablets daily for most patients. *convenience* – Once-a-day maintenance dosage. Two potencies available.

Supply: Rautrax-N – capsule-shaped tablets providing 50 mg. Raudixin, 4 mg. Naturetin and 400 mg. potassium chloride. *Rautrax-N Modified* – capsule-shaped tablets providing 50 mg. Raudixin, 2 mg. Naturetin and 400 mg. potassium chloride.

Rautrax-N*

For full information, see your Squibb Product Reference or Product Brief.

Squibb Standardized Whole Root Rauwolfia Serpentina (Raudixin) and Bendroflumethiazide (*Naturetin) with Potassium Chloride

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upper respiratory infections

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BRISTOL LABORATORIES, SYRACUSE, NEW YORK
Div. of Bristol-Myers Co.

BRISTOL ™

SUPPLY: TETREX Capsules — tetracycline phosphate complex — each equivalent to 250 mg. tetracycline HCl activity. Bottles of 16 and 100.

TETREX Syrup — tetracycline (ammonium polyphosphate buffered) syrup — equivalent to 125 mg. tetracycline HCl activity per 5 ml. teaspoonful. Bottles of 2 fl. oz. and 1 pint.

DORNWAL® IS THE TRANQUILIZER VERSATILE ENOUGH TO BE USED ALMOST ANYWHERE.

Take, for instance, the woman in our picture, suffering from a really severe tension headache. Aspirin she has tried, of course; but suppose she's called you and you prescribed Dornwal. What would you expect?

First, let us say you told the druggist to indicate the dosage that our clinical research has shown is useful in these cases — 1 or 2 tablets t.i.d. In all probability, she would experience relief of pain and a general relaxation in less than an hour. If she is doing her housework, she could go on with it, because she wouldn't get sleepy.

Dornwal is one tranquilizer that doesn't make people sleepy. It's a tranquilizer pure and simple. Its effectiveness you will see clearly the next time you encounter a patient given to tension headaches. Try Dornwal and see the results.

Dosage: One or two 200 mg. tablets three times a day. Children, age 6 to 16, one or two 100 mg. tablets two times a day. Administration limited to three months' duration.

Supplied: 200 mg. yellow scored tablets, and 100 mg. pink tablets, each in bottles of 100 and 500.

P.S. For the "Genericist", Dornwal is amphenidone

No absolute contraindications to the use of Dornwal are known. There have been no reports or evidence of habituation, addiction or drug tolerance in animal or clinical studies. Dornwal is relatively free from untoward effects when administered at recommended dosages.

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Smooth, balanced action lifts depression as it calms anxiety...rapidly and safely

Balances the mood — no "seesaw" effect of amphetamine-barbiturates and energizers. While amphetamines and energizers may stimulate the patient — *they often aggravate anxiety and tension.*

And although amphetamine-barbiturate combinations may counteract excessive stimulation — *they often deepen depression.*

In contrast to such "seesaw" effects, Deprol's smooth, *balanced* action lifts depression as it calms anxiety — both at the same time.

Acts swiftly — the patient often feels better, sleeps better, within a few days. Unlike the delayed action of most other antidepressant drugs, which may take two to six weeks to bring results, Deprol relieves the patient quickly — often within a few days. Thus, the expense to the patient of long-term drug therapy can be avoided.

Acts safely — no danger of liver damage. Deprol does not produce liver damage, hypotension, psychotic reactions or changes in sexual function — frequently reported with other antidepressant drugs.

Dosage: Usual starting dose is 1 tablet q.i.d. When necessary, this dose may be gradually increased up to 3 tablets q.i.d.

Composition: 1 mg. 2-diethylaminoethyl benzilate hydrochloride (benactyzine HCl) and 400 mg. meprobamate. **Supplied:** Bottles of 50 light-pink, scored tablets. Write for literature and samples.

▲Deprol▲®

WALLACE LABORATORIES / *Cranbury, N. J.*

CD-2839

The cigarette that made the Filter Famous!

It's true. Kent's enormous rise in popularity—with all the attendant magazine and newspaper stories—really put momentum to the trend toward filter cigarettes!

So, Kent is the cigarette that made the filter famous. And no wonder. Kent's famous Micronite filter is made from a pure, all-vegetable material. A specially designed process at the P. Lorillard factory compresses this material into the filter shape and creates an intricate network of tiny channels which refine smoking flavor.

Kent with the Micronite filter refines away harsh flavor . . . refines away hot taste . . . makes the taste of a cigarette mild.

That's why you'll feel better about smoking with the taste of Kent.

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PEOPLES SERVICE DRUG STORES
PRESCRIPTIONS

56

Stores to serve you in Virginia!

an entirely different

as easy and pleasant to use as a fine cosmetic

EMKO BACKGROUND

Joseph Sunnen, an inventor and industrialist widely known for his philanthropic work, became concerned about the serious economic problems caused by the high birth rate in Puerto Rico. There was an obvious need in that country for a contraceptive more acceptable to the people than the standard creams and jellies.

He suggested combining a proven spermicidal agent with an aerosol foam as a basic carrier. The resulting product, Emko Vaginal Foam, proved simple to use, free of greasiness, and economical.

For the past three years, Emko has been made available in Puerto Rico through the Family Planning Association and the Government Department of Health. Approximately 35,000 families are now using it.

The success of Emko Vaginal Foam in Puerto Rico, and the support it has received from the many people who have visited there, led to the decision to make Emko available to doctors and their patients in the United States.

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AT EASE...WITH EMKO

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approach to birth control

...using principles never before applied to contraceptives

• THE FIRST AEROSOL FOAM!

The volume of the material is expanded ten times to create A BLOCK OF FOAM.

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• A HIGHLY EFFECTIVE PROVEN SPERMICIDE

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The total surface area of each bubble of foam contains this highly effective spermicidal combination. As the sperm attempts to penetrate the block of foam, its zig-zag course exposes it constantly to this very large contact area created by the bubbles.

Thus, Emko Vaginal Foam assures maximum spermicidal exposure . . . with a minimum weight of material.

- **No douching . . . it vanishes after use**
- **Absolutely no greasiness or "after-mess"**
- **No diaphragm . . . the foam does the blocking**
- **No irritation for husband or wife**

MARGARET SANGER RESEARCH BUREAU/**INTERIM REPORT**

In the Contraception Service of the Margaret Sanger Research Bureau, through October 31, 1960, Emko had been used from one to 22 months by 362 patients, with a total of 12 unplanned pregnancies. Seven of the pregnant patients admitted irregularity in the use of Emko.

Two planned pregnancies had also occurred after stopping the use of Emko.

A. J. SOBRERO, M.D. *Research Director*

*PAT. NO. 2,943,979, OTHER PATS. PEND.

When too many tasks
seem to crowd
the unyielding hours,
a welcome
"pause that refreshes"
with ice-cold Coca-Cola
often puts things
into manageable order.

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REG. U.S. PAT. OFF.

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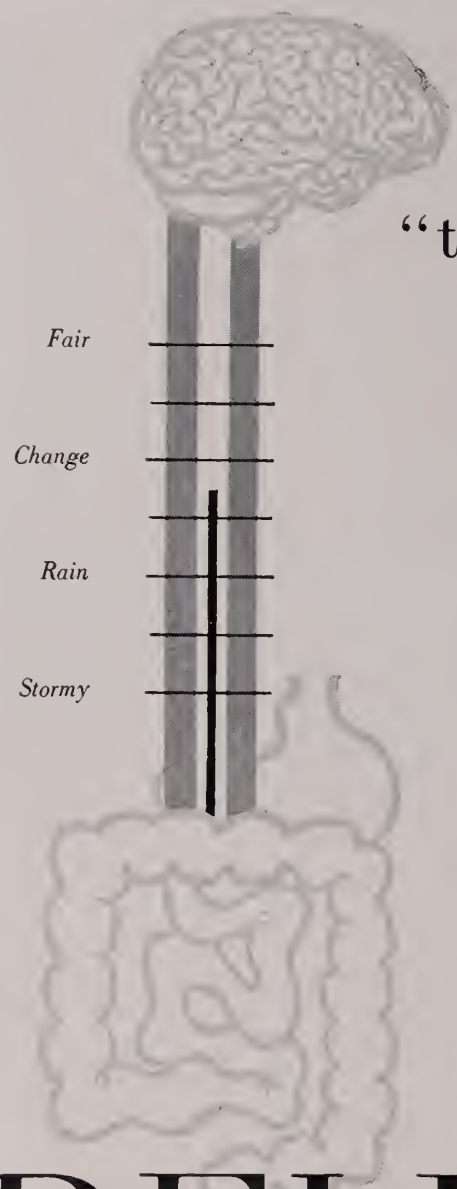

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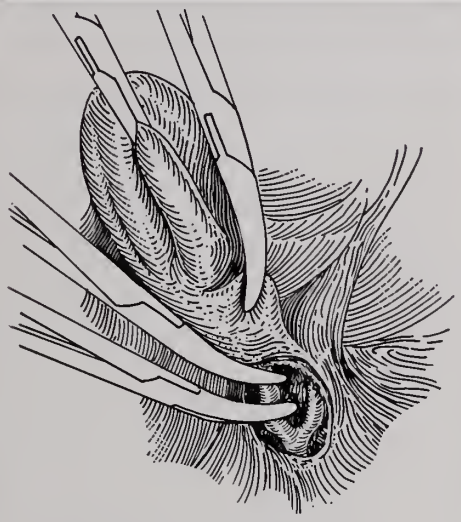

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Source: Farris, J. M., and Smith, G. K.: M. Clin. North America *43*:1133 (July) 1959.

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Source: Popper, H., and Schaffner, F.: Liver: Structure and Function, New York, McGraw-Hill 1957, p. 309.

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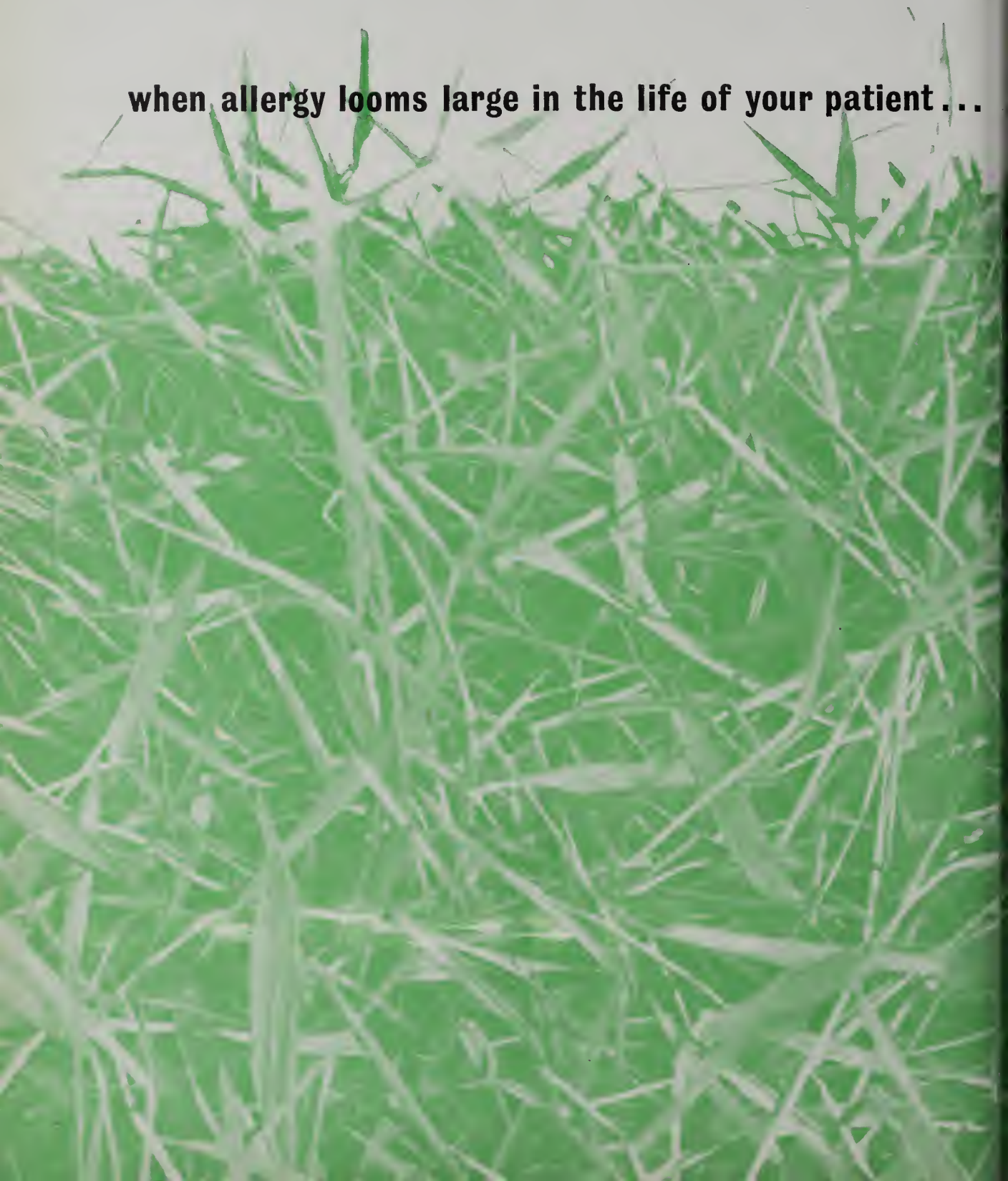

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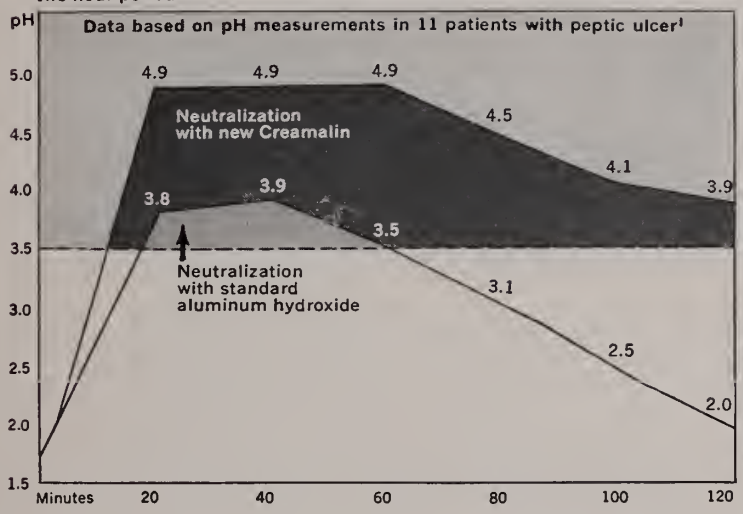
At the site of peptic ulcer

Following determination of basal secretion, intragastric pH was continuously determined by means of frequent readings over a two-hour period.



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1. Data in the files of the Department of Medical Research, Winthrop Laboratories. 2. Hinkel, E. T., Jr.; Fisher, M. P., and Tainter, M. L.: **J. Am. Pharm. A.** (Scient. Ed.) 48:384, July, 1959.

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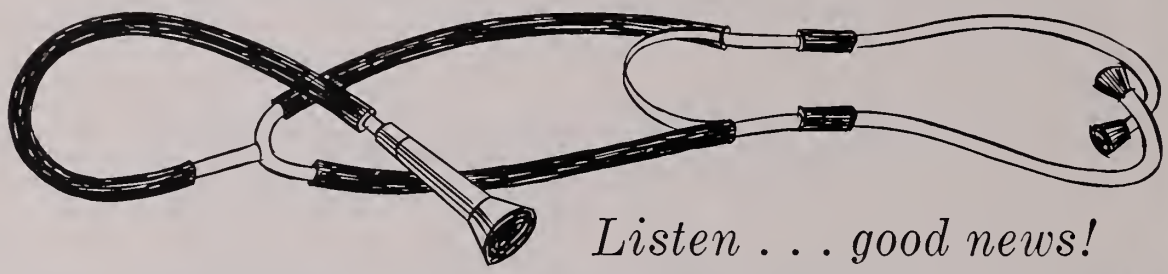

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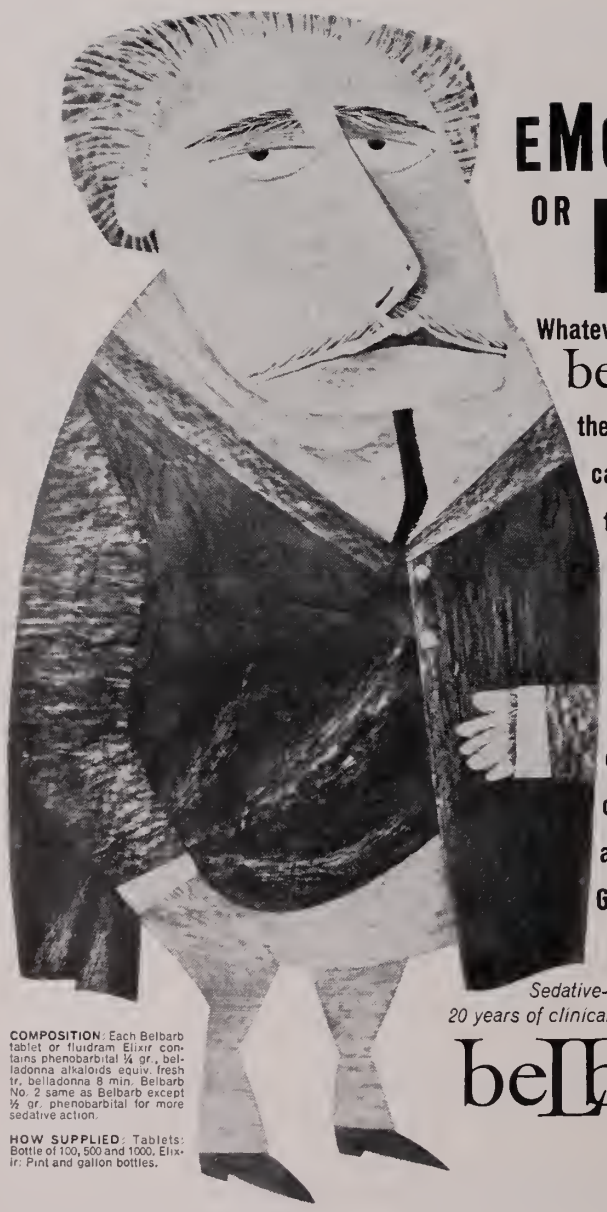

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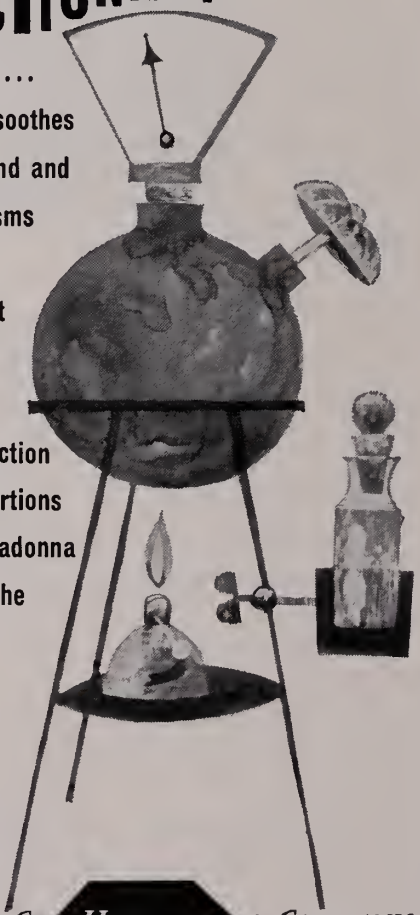

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20 years of clinical satisfaction

bellbarb®

COMPOSITION: Each Belbarb tablet or fluidram Elixir contains phenobarbital ¼ gr., belladonna alkaloids equiv. fresh tr. belladonna 8 min. Belbarb No. 2 same as Belbarb except ½ gr. phenobarbital for more sedative action.

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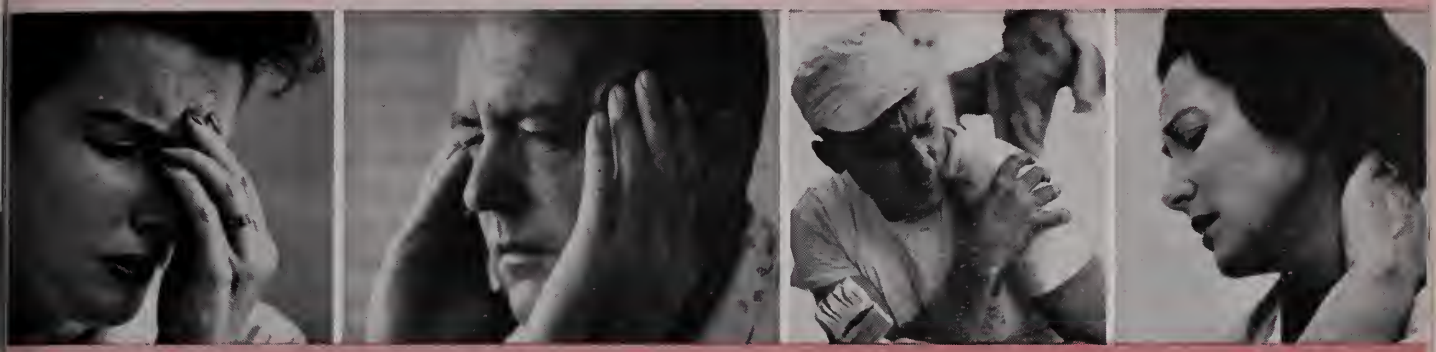
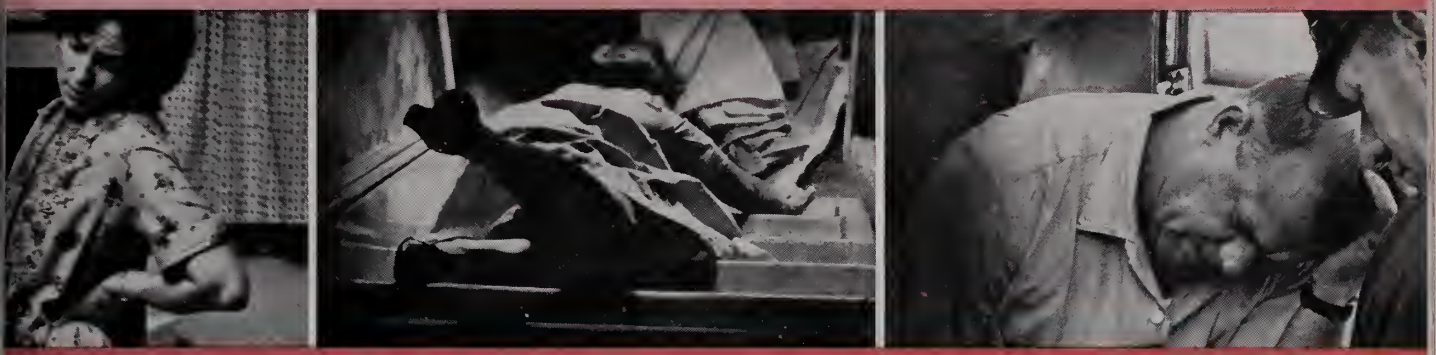


intensities commencing with moderate pain and extending



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prolonged relief

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in allergic respiratory disorders

Aristocort®

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There was no blood pressure increase in any patient treated for bronchial asthma, and in some, blood pressure fell. Of these, three had been hypertensive.[4]

References:

1. McGavack, T. H.; Kao, K. Y. T.; Leake, D. A.; Bauer, H. G., and Berger, H. E.: *Am. J. M. Sc.* 236:720 (Dec.) 1958.
2. McGavack, T. H.: *Nebraska M. J.* 44:377 (Aug.) 1959.
3. Friedlaender, S., and Friedlaender, A. S.: *Antibiotic Med. & Clin. Ther.* 5:315 (May) 1958.
4. Sherwood, H., and Cooke, R. A.: *J. Allergy* 28:97 (March) 1957.

Precautions: Collateral hormonal effects generally associated with corticosteroids may be induced. These include Cushingoid manifestations and muscle weakness. However, sodium and potassium retention, edema, weight gain, psychic aberration and hypertension are exceedingly rare. In the treatment of allergic respiratory disorders, dosage should be individualized and kept at the lowest level needed to control symptoms. Dosage should not exceed 36 mg. daily without potassium supplementation. Drug should not be withdrawn abruptly. Contraindicated in herpes simplex and chicken pox.

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for relief of anxiety and tension

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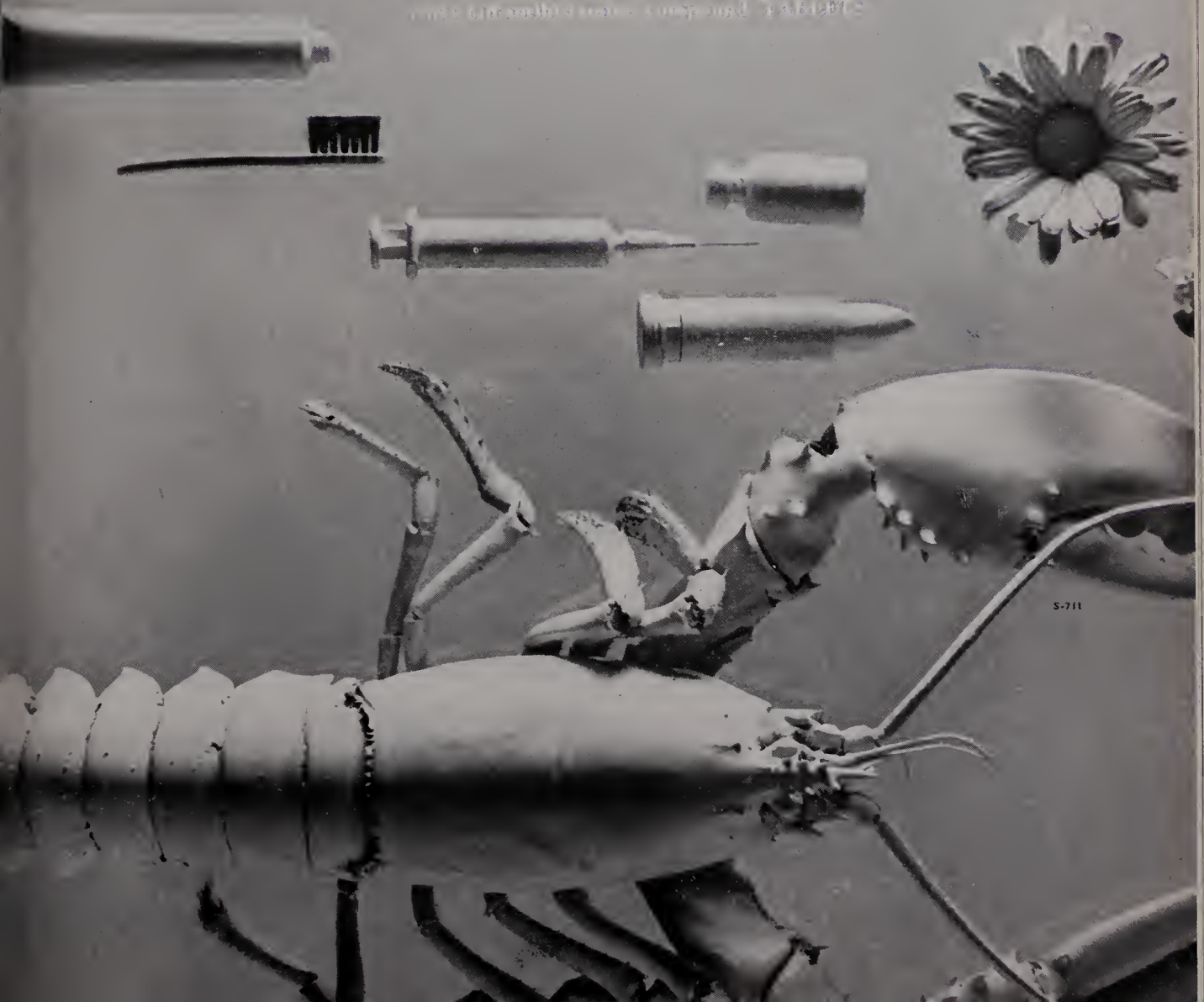

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palatable	Delicious ATARAX syrup pleases even the balkiest patient.

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References: 1. Freedman, A. M.: Pediat. Clin. North America *5*:573 (Aug.) 1958. 2. Nathan, L. A., and Andelman, M. B.: Illinois M. J. *112*:171 (Oct.) 1957. 3. Santos, I. M. H., and Unger, L.: Ann. Allergy *18*:179 (Feb.) 1960. 4. Litchfield. H. R.: New York J. Med. *60*:518 (Feb. 15) 1960.

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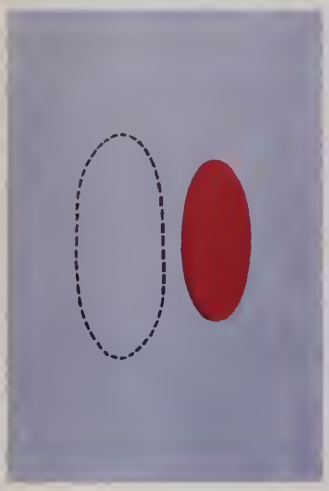

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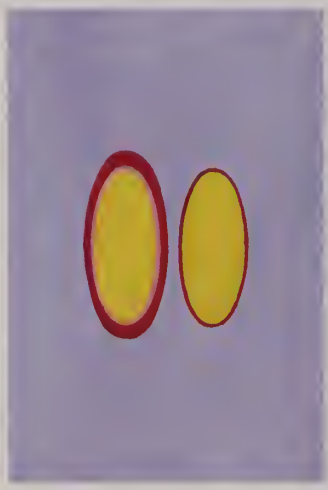

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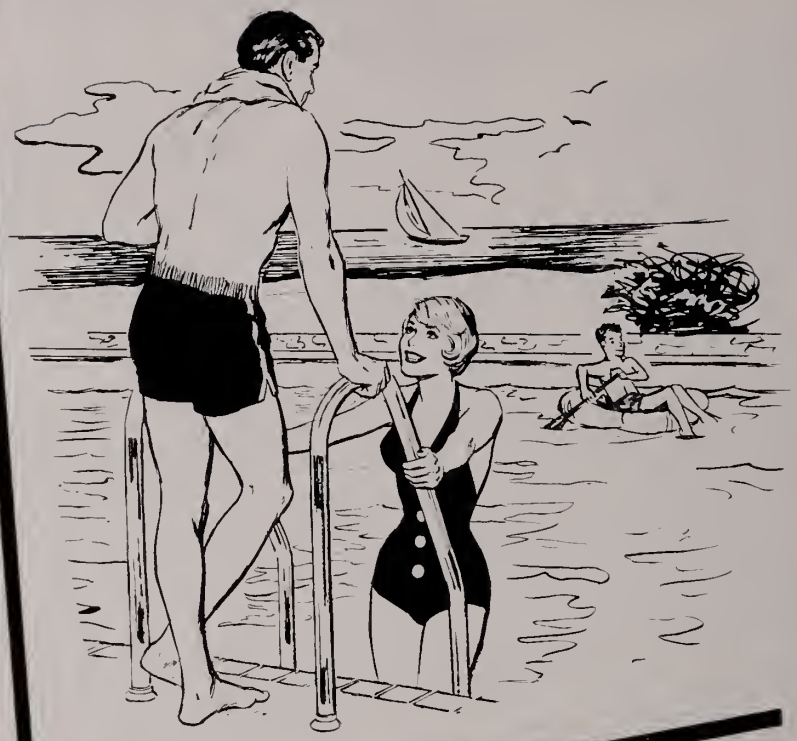

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References: 1. California Medicine, 80:375, 1954; 2. Peterson, D. M.: J. Missouri S.M.A., 40:279, 1943; 3. Lindberg, H. A., Treger, N. V., Barker, M. H.: Quarterly Bull., Northwestern Univ. Med. School, 22(1):59, 1948; 4. Davis, L.: Postgraduate Med., 9:321, 1951; 5. Goodman and Gilman, The Macmillan Co., New York, 1958.

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"nutrition...present as a modifying or complicating factor in nearly every illness or disease state"[1]

1. Youmans, J. B.: Am. J. Med. 25:659 (Nov.) 1958

cardiac diseases "Who can say, for example, whether the patient chronically ill with myocardial failure may not have a poorer myocardium because of a moderate deficiency in the vitamin B-complex? Something is known of the relationship of vitamin C to the intercellular ground substance and repair of tissues. One may speculate upon the effects of a deficiency of this vitamin, short of scurvy, upon the tissues in chronic disease."[2] 2. Kampmeier, R. H.: Am. J. Med. 25:662 (Nov.) 1958.

arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]
3. Fernandez-Herlihy, L: Lahey Clinic Bull. 11:12 (July-Sept.) 1958.

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.: Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57.

degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser, W., and Fong, T.C.C. In Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . .There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]
8. Duncan G. G.: Diseases of Metabolism 4th edition W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958.

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1. Barden, F. W., et al.: J. Maine M. A. 46:99, 1955.
2. Ford, R. A., and Blanchard, K.: Journal-Lancet 78:185, 1958.

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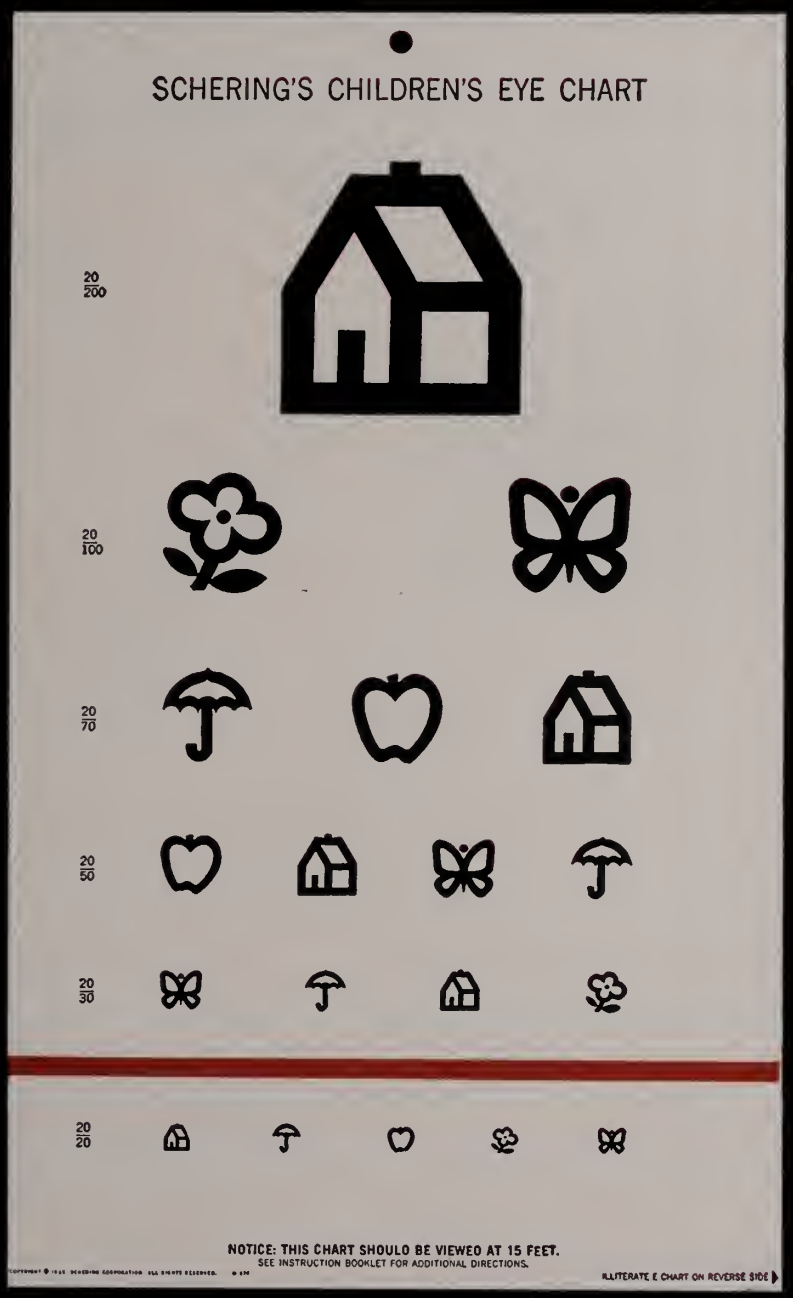

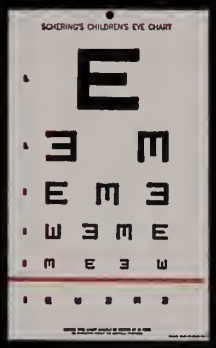

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Vitamin B_{12} Crystalline	5	mcg.
Pantothenic Acid (as *d*-Panthenol)	1	mg.
Nicotinamide	5	mg.
Ascorbic Acid (Vitamin C)	35	mg.

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Usual dosage:

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Adults—1 to 2 teaspoonfuls (preferably at mealtime) three times daily.

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The Virginia
MEDICAL
MONTHLY

May, 1961
Vol. 88, No. 5
Whole No. 1308

Guest Editorial . . . .

No Sin, Polyglotism

ONCE IN A WHILE we find ourselves chided for the use of polyglot words. The complaint seems to be that when coining a word to fill a void in our vocabulary, we should draw all the several parts from the same language.

Oftentimes the apparent need for neologism merely reflects a lack of familiarity with an existing and quite adequate expression.

Ignorance aside, the very fact that the roots, prefixes, suffixes, and other philologic impedimenta may be drawn from a variety of tongues bespeaks a certain universal understanding. The fact that we interpret *uterogram* to be synonymous with *hysterogram* typifies the fluidity and versatility of our speech, though the former is a polyglot word while the latter is pure Greek in origin. Incidentally, *uterotubogram* is eminently easier to say than *hysterosalpingogram* and equally comprehensible. But to hew the puristic line, we should encumber ourselves with *uterotubo-script?*

Acceptance should not be given to such ill-begotten etymologic anomalies as *triphibious.* This bastard word was coined by some pseudo-erudite correspondent during World War II to mean "pertaining to air, land, and water", as in "a triphibious attack on Iwo Jima". It is clear that the mental machinations that led to this semantic abortion started with the erroneous belief that *amphibious,* meaning "pertaining to land and water" was derived from *am-* and *phibious.* (*Monophibious,* of course, means "pertaining to land or water, but not both.") Such benighted thought processes are at work today among the Pentagonians.

Probably the most outstanding example of "polyglotism" in everyday scientific use is *antibody,* half Greek and half (pardon the expression) Anglo-Saxon. Should we jettison *antibody* in favor of Greek *antisomacule,* Latin *contracorpus,* or Teutonic *thwartbody?*

We do not hesitate to speak or write using phrases, each word of which may be derived respectively from a different tongue. As long as our verbal efforts are readily understood, cannot the sundry words make profit of our variegated etymologic heritage?

We like to think we live in a progressive, vital society. Let not pedantic arbitrary rules fetter us with an unvital speech.

T. Stacy Lloyd, Jr., M.D.

The Pratt Clinic
Fredericksburg, Virginia

The Positive Cytological Cervical Smear

LAWRENCE L. HESTER, Jr., M.D.
Charleston, South Carolina

Although not absolutely accurate, the cervical smear is a valuable aid in the diagnosis of cervical cancer.

THE OBTAINING of a cytological cervical smear (Papanicoleau smear) from a patient is a routine, perfunctory procedure for the physician. However, for the patient it is of greater significance and may arouse many emotions and questions. A simple explanation to the patient that a cytological smear or smears are going to be taken during the examination will save many telephone calls. A belated explanation after the smears have been obtained give little solace to the patient and actually may increase her anxiety. Thus the patient should be told before the pelvic examination that this is an essential part of the examination, and only tells if normal or abnormal cells are present and a diagnosis of cancer cannot be made by smears alone. The smears are chiefly of value in detecting cellular abnormalities of the cervix uteri, although rarely abnormal cells from other parts of the reproductive tract may be present and noted. However, a negative, Class I or II smear, should be interpreted as being negative for the cervix uteri only and not for the entire or any other part of the reproductive system.

Cervical smears should and can be taken on *every* adult female that presents herself to a physician for examination. If a patient is old enough to marry, she is old enough to have a pelvic examination and cervical smears regardless of her chronological age. Also, if a virgin presents herself to a physician for a routine physical examination or for gynecological complaints, it is mandatory that cytological smears be taken as a part of the routine examination. One cannot take cervical cytological smears only on patients in whom the cervix is considered "malignant" or "questionably malignant" since approximately 90% of the patients[1] with pre-invasive carcinoma have a clinically benign cervix. The fact that a female is also virginal does not exclude carcinoma of the cervix, although it is less frequent. In a series of approximately 13,000 celibate women Towne[2] found cacinomas of the cervix in six. Age cannot be considered a factor as to whether cervical smears should or should not be taken since invasive carcinoma of the cervix has been reported in patients in their early twenties.[2] At the Medical College of South Carolina a patient was treated for unequivocal, invasive epidermoid carcinoma of the cervix at age 18.

At one time the cellular changes in the cervical epithelium accompanying pregnancy were difficult to interpret from a cytological standpoint. Confusion was present and needless anxiety was aroused in some patients. With experience these changes are being properly interpreted by the cytopathologist or cytologist. Carter et al.[1] had almost identical incidences of non-invasive intra-epithelial carcinoma of the cervix in their obstetrical patients as they did in their gynecological patients. There is no better time for the taking of routine, cervical

From the Department of Obstetrics and Gynecology of the Medical College of South Carolina.

Presented at the Annual Meeting of The Medical Society of Virginia, Virginia Beach, October 9-12, 1960.

smears than the initial prenatal pelvic examination.

Gynecologists have advocated for years that patients have a periodic pelvic examination every six months. This is idealistic, but not realistic. Thus it is now recommended that *asymptomatic* adult females return yearly for routine cervical cytological studies and a pelvic examination. In elderly females without previous cytological cervical smears, it is advisable to obtain smears at six month intervals. Three negative cervical smears, Class I and II, would establish a negative cytological pattern; then the patient could be seen at yearly intervals. The significance of a negative cytological pattern is emphasized by Ullery and Hollendeck[3] in a cancer survey program. Approximately 11,000 patients with negative smears on their first visit returned after one year and repeat smears were taken. No mention was made of the suspicious or positive smears, but epidermoid carcinoma of the cervix was discovered in seven patients with one of the patients having invasive carcinoma. Thus there was an incidence of one cervical carcinoma to 1,600 cervical smears on the second examination as compared to 1 to 300 smears on the first examination. Soule and Dobbin[4] report an incidence of one preclinical carcinoma of the cervix to 140 initial screening smears or to 600 repeat screening smears.

One should check with his cyto-pathologist or cytologist regarding the taking of cervical smears since this will result in the lowest incidence of poor or unsatisfactory smears. Some submit three smears for examination, with the first smear being aspirations from the posterior vaginal fornix. If only two smears are submitted for cytological study, the first smear is obtained from the endocervix with a cotton applicator and rolled, not rubbed, on a glass slide which is immediately emerged in a bottle containing equal parts of 95% alcohol and ether. If desired, another endocervical smear may be obtained by aspiration after sounding of the endocervix.[4] The second smear is obtained with an Ayre spatula, or a tongue blade broken so that an edge may be placed in the cervical os, for stability and pressure. The spatula is then rotated obtaining cervical scrapings from the external cervical os, or from a minimal cervical lesion if one is present. These scrapings are likewise placed on a slide which is handled in the same manner as the first slide. Some method to separate the two slides, such as a paper clip on one slide, is necessary to keep them apart for adequate fixation. Better smears are obtained if the patient has refrained from douching, or the using of contraceptive jelly or cream for five to seven days prior to the examination. Also a lubricant should not be used on the speculum, but it should be moistened with water prior to its insertion into the vagina. Thus the taking of cervical smears is the first and perhaps the most important part of the routine pelvic examination.

If a routine cervical smear is reported as doubtful, suspicious, or positive (Class III, IV, or V) the first procedure is to repeat the cervical smears with or without cervical biopsies. Henceforth, positive cytology connotes a doubtful, suspicious, or positive cervical smear. The repeating of cervical smears is to be stressed, when the interpretation of the original smear in question was done beyond the confines of your hospital or institution.[5] Repeat cervical smears should be taken, and the original smears reviewed, if there is a difference in the interpretation. If on two separate examinations of exfoliative cervical cytology, a report is received of doubtful, suspicious, or positive smears for carcinoma cells; then further investigation is indicated prior to the institution of any therapy.

Cervical biopsies are valueless in the management of patients with abnormal exfoliative cytology unless they are positive, that is, reveal unequivocal invasive carcinoma of the cervix. However, we continue to perform them after our cytological examina-

tions are completed if a lesion is present on the cervix. If no lesion is present, then four quadrant biopsies are obtained. This is done because on rare occasions invasive carcinoma of the cervix is detected, and the patient is therefore not subjected to a cervical conization before the institution of therapy. However, if the cervical biopsies do not reveal unequivocal invasive carcinoma of the cervix, then our next step in the evaluation of the positive cervical smear is cold-knife conization. Our technique for this procedure[5] is as follows: The patient is placed on the operating table in the dorsal, lithotomy position. The vulva, perineum and vagina are scrubbed with cotton balls, soaked in septisol and benzalkonium chloride. The vagina is not scrubbed as vigorously as the vulva to decrease the danger, if one is present, of removing superficial layers of cervical epithelium. The cervix is then grasped with tenacula at 3 and 9 o'clock. The entire cervix is injected with phenylephrine hydrochloride (neo-synephrine) 1 to 100,000 solution.[6] This strength is obtained by adding 2 mg. of phenylephrine hydrochloride to 200 cc. of normal saline. The injection is made into the cervix, near the vaginal fornix. Enough solution is used to produce ballooning and blanching of the cervix, otherwise the technique will be a failure. The same injection has been tried without the phenylephrine hydrochloride to obtain a liquid tourniquet, but with poor hemostasis. Beginning at 4 or 5 o'clock on the posterior lip, an incision is made and extended to completely encircle the cervix removing an inverted cone of tissue, including the squamo-columnar junction. The size of the cone will vary with a small cone being obtained on a nulligravida patient, and a much larger cone on a grand multigravida with bilateral cervical lacerations. The cone of cervical tissue is removed intact, separately marked, and sent to the Department of Pathology. After the cold knife conization, fractional uterine curettage is carried out in the usual manner. If an adequate liquid tourniquet employing phenylephrine hydrochloride is obtained, hemostasis is complete and cauterization and/or suturing is not necessary.

Results

In a recent study cytological cervical smears were obtained on 139 patients that also had a cold-knife conization. Only the first smears interpreted by our cyto-pathologist are considered, although some patients had many smears. The results of the first cervical smear compared with the tissue diagnosis of the cone specimen is seen in Table I.

TABLE I

Comparison of Cervical Cytological and Tissue Diagnosis

	Cervicitis	Atypical Epithelium	Pre-Invasive Carcinoma	Invasive Carcinoma
Negative cytological studies (28)	16	3	8	1 (Adeno-carcinoma of cervix)
Doubtful (8)	..	4	4	..
Suspicious (74)	9	12	50	3
Positive (29)	3	3	18	5
Total (139)	28	22	80	9

There were 12 false negative smears or eight if only pre-invasive intra-epithelial carcinoma is considered. Since abnormal glandular epithelium is cytologically difficult to interpret, the adeno-carcinoma of the cervix should be excluded. There were 12 false positive smears, an incidence of 9%.

There were nine patients with a diagnosis of invasive carcinoma, eight being epidermoid and one adeno-carcinoma of the cervix. Initially, five cervical smears were

positive, three were suspicious, and one was reported as negative.

Punch biopsies of the cervix were obtained prior to conization on many of the patients. The tissue diagnosis of the punch biopsies and the cone specimen agreed 61%, but there was disagreement 39% of the time. The cone specimen revealed more serious abnormal cellular changes in 26% of the patients, and in 13% less serious cervical disease was noted.

The diagnosis of pre-invasive intra-epithelial carcinoma of the cervix was made on 104 patients in this series; however, only 80 patients had cervical cytological studies and conization at our institution. Forty patients seen in the beginning of the series had cold-knife conization because of cytological studies or punch biopsies performed elsewhere and 24 of them had a final diagnosis of pre-invasive intra-epithelial carcinoma of the cervix. Some of the patients returned to their referring physicians for hysterectomy, some moved to other communities before hysterectomy could be performed, and others refused surgery. A total of 86 hysterectomies and four trachelectomies were performed. All the trachelectomies were done vaginally as were 50 of the hysterectomies. The remaining 36 hysterectomies were done abdominally. Residual intra-epithelial carcinoma of the cervix was reported to be present in 37 uteri, or 43% of the specimens that were removed.

Comments

The value of exfoliative cervical cytology has been amply demonstrated by many authors.[1,3,4] In stressing the importance of cervical cytological studies, the experience and diagnostic acumen of the person that interprets the cytological smears should be emphasized. Although it is not necessary for a cytologist to be a tissue pathologist, it does appear that the best results are obtained, and there is better correlation of exfoliative cytology and tissue pathology, where both procedures are carried out in the same department. Hence, it appears needless to re-emphasize the importance of knowing your cyto-pathologist, or cytologist.

In each patient one must first determine whether or not a cervical malignancy is present, and secondly whether or not it is invasive prior to the institution of therapy. Cervical conization is the most reliable method that one has of making an accurate diagnosis of cervical disease since an adequate amount of tissue is submitted for study.[7] The value of exfoliative cytology as a screening procedure and cervical conization as a diagnostic procedure is further emphasized by the fact that non-invasive intra-epithelial carcinoma arises in most instances from the endocervical canal, and not from the portio or non-gland-bearing portion of the cervix.[8] It has also been noted that the usual growth pattern of carcinoma of the cervix is to the endocervix and paracervical tissues, and only late is there involvement of the portio of the cervix.

Our experience has shown that vaginal hysterectomy for pre-invasive intra-epithelial carcinoma of the cervix is the treatment of choice without salpingo-oophorectomy unless the ovaries or fallopian tubes are found to be abnormal. This is usually performed six weeks after conization so that the reaction to injury will have subsided. Another reason for the delay in hysterectomy is that it is sometimes difficult to obtain an accurate diagnosis 48 to 72 hours after the cone specimen has been removed. More slides have to be made, re-studied, and other opinions obtained. Thus a minimum of six weeks should elapse prior to definitive surgery so that a more accurate diagnosis can be made and patient morbidity and mortality reduced. After definitive surgery has been done, the patient should not be discharged, as meticulous yearly examinations are required. This not only includes a careful pelvic examination, but routine cervical cytological smears should be taken from the apex of the vagina.

If a positive cytological smear is obtained in a pregnant female, the same diagnostic

procedures are done in sequence as mentioned. Conization of the cervix, however, is not carried out until after 16 weeks' gestation or the fetal heart tones have been heard. A more superficial cone is done so that there is no danger of approaching the internal cervical os. Only diagnostic procedures are performed during pregnancy whereas the therapeutic procedures, excluding conization as a therapeutic procedure here, await delivery and further evaluation. A minimum of four months should elapse from delivery to vaginal hysterectomy, particularly if anterior and posterior colporrhaphy are also done, because of the increased vascularity and blood loss during surgery if it is performed earlier in the puerperium. Therapy for invasive carcinoma of the cervix should be begun as soon as the diagnosis is made and confirmed except in cases where the gestation has reached 28-30 weeks, then each case must be individualized.

Summary

Approximately 35,000 women die in the United States each year of cervical cancer.[4] Many of these deaths are needless because the opportunity of early diagnosis is negated by the failure to obtain routine cervical smears. The significance of the positive cervical smear has been emphasized, and a diagnostic regimen outlined. The value of each step that should be taken in making a diagnosis of non-invasive intra-epithelial carcinoma of the cervix has been stressed.

References

1. Carter, Bayard; Cuyler, W. K.; Kauffmann, Louise A.; Thomas, W. L.; Creadick, R. N.; Parker, R. T.; Peete, C. H.; and Cherny, W. B.: Am. J. Obstet. & Gynec. 71: 634, 1952.
2. Towne, Janet: Am. J. Obstet. & Gynec. 71: 609, 1955.
3. Ullery, John C. and Hollanbeck, Z. P. R.: Am. J. Obstet. & Gynec. 76: 1083, 1958.
4. Soule, Edward H. and Dahlin, David C.: Proc., Mayo Clin. 35: 508, 1960.
5. Hester, Lawrence L., Jr., and Read, Robert A.: Am. J. Obstet. & Gynec. Accepted for Publication.
6. Scott, Joseph W.; Welsh, William B.; Blake, Thomas F.: Am. J. Obstet. & Gynec. 79: 62, 1960.
7. Fleming, A. R.: J.A.M.A. 168: 866, 1958.
8. Thornton, W. N., Jr.; Fox, C. H., and Smith, D. E.: Am. J. Obstet. & Gynec. 78: 1060, 1959.

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Heredity Factor in Spinal Ailment

Heredity has been reported for the first time as a definite factor in a relatively common type of spinal deformity. A defect of closure in the spinal column (spinal bifida occulta) was found in two sons and a daughter of parents who both had the same ailment. The cases are described in the April 8th Journal of the American Medical Association.

In the children the bone defect was associated with a disorder of the nervous system. Stretching and deformity of the spinal cord had occurred as a result of a shortening of the threadlike connection (filum terminale) which anchors the spinal cord to the base of the spine.

Said Drs. J. Grafton Love, David D. Daly, and Lloyd E. Harris of the Mayo Clinic, Rochester, Minn.:

"It is our opinion that the occurrence of tight filum terminale in all three siblings of this family clearly indicates a gene-determined etiology and that this is the first reported instance of the syndrome as a hereditary disorder. The precise mode of genetic transmission of this disorder is not clear."

The spinal column defect usually is not associated with neurological disorders. However, when it is, symptoms include disturbances in gait, weakness and atrophy of the legs and deformities of the feet.

Treatment of Fractures of the Mandible in Children

(Naso-Mandibular Method of Immobilization)

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Fracture of the mandible in young children is not often seen but requires special consideration. An effective method of treatment is described.

FRACTURES of the mandible in children are relatively rare. There are a number of explanations for this fortunate circumstance. The nature of the young bone is not conducive to fracturing. Though children sustain many falls, they are usually of a minor type, occurring during play and at the time of relaxation. Again, the child spends comparatively little time in automobiles, does not participate in contact sports, and is not likely to become involved in murderous altercations. As far as the facial bones are concerned, the mandible would seem to be more vulnerable to injuries than those of the mid and upper face regions, with the exception of the nasal cartilages and bone. We have not seen a fracture of the mandible in infants or very young children except in those cases of massive injuries from which there was no survival.

The problem of treatment is essentially the same as for fractures elsewhere: reduction and immobilization until healing takes place. An exception to this is in the case of the mandible with a fractured and displaced condylar head. Usually, in this instance, no effort is made to correct the displacement, only immobilization being necessary for three weeks to promote formation of an asymptomatic false joint.

Because of the absence of, size and structure of children's teeth, the underlying unerupted ones and follicles, the lack of space, and the inability of the patient to cooperate fully, the utilization of many methods of obtaining reduction and immobilization of the fractured parts will be unsatisfactory and, indeed, hazardous to the future development and growth of the permanent teeth and mandible. This applies to the application of various types of arched bars, intermaxillary wiring, direct fixation with Kirschner wires, extraskeletal pinning and fixation, plastic prostheses, and open reduction with direct wiring of the fractured parts. An exception is the last mentioned, which may be indicated occasionally in certain types of fracture. Even though the procedure is performed very carefully, injuries to the permanent teeth may result and, of course, some secondary scarring of the soft tissue is inevitable. Even after considering these disadvantages, open reduction with direct wiring will be justified in certain cases.

It is our intention to describe a method of immobilization that we, in the Department of Otolaryngology, have found to be useful in the treatment of mandibular fractures in children. The procedure is not orig-

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inal with us and has been described in dental and medical journals previously.[1-6] Recently however, we have heard several speakers expound on the treatment of fractures of the mandible, and have been impressed by the fact that a description of this method has been omitted. Because of its simplicity, the minimal discomfort, success, ease of performing the surgical procedure and carrying out after care with regard to oral hygiene, we believe we are justified in placing some emphasis on the mode of treatment in this presentation.

Other advantages are that anyone having basic surgical experience will be capable of performing the various simple maneuvers; and, again, no elaborate armamentarium of equipment is necessary.

Two cases will be briefly presented to illustrate and describe the method.

A six-year-old white male, a victim of an automobile accident, sustained injuries of the head. These consisted essentially of a severe cerebral concussion and a fracture of the mandible (Fig. 1). After a waiting period of seven days, during which time a tracheotomy was performed and hypothermia utilized to improve the general condition of the patient, definitive treatment of the mandibular fracture was instituted. This fracture was a comminuted one, with displacement of the fragments in the region of the symphysis.

Under general anesthesia, the following operative procedure was performed. After the upper lip was retracted upward, exposing the sulcus between it and the alveolar process, a horizontal incision 4.0 cm. in length was made through the mucous membrane and periosteum. By elevation of the soft tissues with the subperiosteal elevator, the bony floor of the nose, maxillary spine and bony rim of the nasal aperture at its junction with the maxilla were exposed with ease. A horizontal perforation of the bone of the spine of the maxilla was made with a machine-driven bur. (Any type of bone drill may be utilized.) A 0.020 inch (diameter) section of stainless steel was passed through the opening and the two segments were brought down into the mouth just external to the alveolar process, intra-orally,

Fig. 1. Fracture at symphysis of mandible—open reduction and wiring. Immobilization by wires leading from spine of maxilla and mandible (naso-mandibular fixation).

through the mid-portion of the incision (Fig. 2). The wound was irrigated with saline and closed with catgut sutures.

The next step in the procedure was the attachment of a similar segment of wire to the mandible. The bone of the lower one-fourth of the mandible was exposed through a soft tissue incision in the mid-symphysis region. The fracture lines were identified and the parts directly wired, after penetrating each segment of bone with the perforating bur. To insure better reduction and immobilization, a second section of wire was passed through one opening in the bone, as noted in the x-ray and diagram (Figs. 1 and 2), then led up through the mucous membrane, again external to the alveolar process, into the mouth. The external wound was closed with catgut and silk. After full recovery from the anesthesia, when all danger of regurgitation and aspiration had passed, the teeth of the lower and upper jaws were approximated in proper alignment and immobilized in this position by twisting and fixing together the opposing wires. In this particular case, the presence of the tracheotomy reduced the danger of aspiration of material secondary to regurgitation.

The patient was soon ambulatory, and after a further period of nine days in the hospital, during which time the family were instructed in the care of the teeth and mouth, he was discharged and observed biweekly as an out-patient.

Nourishment, liquid vitamin supplements, and antimicrobial drugs were administered orally through the narrow orifices between the teeth. Frequent feedings of a suitable liquid diet are satisfactory. A rich, high calorie one sometimes causes nausea. There is no better food for a child under these circumstances than ice cream, which is usually welcomed.

After a period of four weeks, the wires were removed, and decannulation was accomplished within a few days. The result was good.

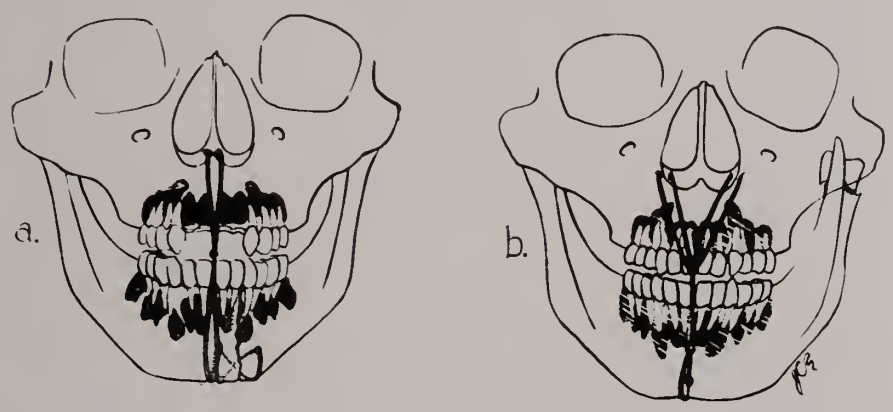

Fig. 2, a and b. Diagram showing location of wires in naso-mandibular fixation.

Comment

This case illustrated a method of immobilization of a fractured mandible by naso-mandibular fixation and direct wiring. The upper point of stabilization was the nasal spine of the maxilla, and the lower, the symphysis of the mandible. The attachment of the wires to the mandible may be carried out in several ways. First, the perforation of the mandible near its lower margin may be accomplished by using the perforating bur or any other type of drill and bit, after exposing the bone by an external incision, as was done in this case; or actually, the exposure may be obtained by an intra-oral incision. Stainless steel wire, in either case, may be passed through the perforation and the two segments made to exit within the intra-oral cavity, external to the alveolar process and the teeth of the mandible if present, that is, between the lower lip and the mandible. By passing the wire through

the perforation and extending both extremities of the wire to the mouth, then removal may be facilitated with ease. At the time when removal is indicated, one segment of the wire will be cut and propelled into the opening while traction is placed on the other end, thus delivering the wire from the perforation and mouth.

Another method of attaching the wire to the mandible is by the circumferential approach, that is, by the use of a curved ligature carrier. The wire may be passed through the mucous membrane on the lingual side of the mandible, under the inferior border, without penetrating the skin, and up external to the mandible through the mucous membranes, in between the alveolar process and lip, into the intra-oral cavity. This can also be accomplished by using a long needle, such as a spinal one. The needle may be passed into the proper position and the wire threaded through the needle. The danger of osteitis or osteomyelitis is insignificant, provided the patient is given an antimicrobial drug; and even without this, we doubt seriously that the risk would be great. The two segments of wire, after passing through the mandible and through the spine of the maxilla, are twisted together to form a single strand. This strand in turn may be fashioned to form a hook instead of wiring them directly together, and then an elastic band is placed between the hooked portions of the wire, or a heavy silk thread may be used instead of the bands to attach the hooked portions together. These latter two methods may be somewhat safer than directly wiring the two parts, because in the event of regurgitation of food or hemorrhage, it is easier to remove the elastic bands or silk in order that the fluid from either cause may find exit through the mouth rather than through the nose and be aspirated into the lungs. In fact, we prefer the use of rubber bands or silk because the child, if old enough, can be taught the maneuver and the parents, who have previously been instructed, can rapidly cut the rubber bands or silk material by the use of scissors, which should always be readily available. In cases of younger children, the scissors may be attached to the clothing in some fashion so as to always be within reach. Immobilization of a child's fracture of the mandible for a period of four weeks is usually adequate to insure firm union.

The second case is an older person, but demonstrates a variation of the procedures which we are presenting.

A 14-year-old white male fell from his bicycle, sustaining lacerations of the face and a subcondylar fracture of the mandible. Somewhat to our surprise, we found on examination that all of his upper teeth had been previously extracted because of dental disease. A very adequate full upper denture compensated for the lack of teeth. Five lower teeth were present, the others having been extracted because of dental disease, also. Only two of these were anywhere near sound. A partial denture was worn in the lower mouth.

The problem of reduction and open immobilization here could have been solved by open manipulation and direct transosseous wiring. However, a much simpler procedure, which proved satisfactory, was utilized. By an intra-oral incision, the rim of the lower edge of the nasal bone was exposed. The bones were perforated and a stainless steel wire was passed through the perforation and led down into the mouth. Stainless steel wires were then applied to two of the remaining five teeth in the lower jaw. Twenty-four hours later, the upper denture, which fortunately had not been injured in the accident, was placed in the mouth. The wires extending from the nasal bone were placed external to the denture. The five remaining lower teeth were then closed, approximating the upper denture. The wires from the two lower teeth and those attached to the nasal bone were then twisted to form a single one, and were attached together to immobilize the lower jaw against the upper. Satisfactory occlusion and immobilization were obtained (Figs. 2-3). Occlusion in

this type of case was not particularly important, the immobilization being more so.

The many apertures between the upper plate and lower teeth well afforded an ingress for liquid and semi-solid nourishment.

The patient was "permitted his jaw", that is, the wires were removed after a period of five weeks. He suffered little, if any, impairment of his general condition and relatively little discomfort after the first twenty-four hours following reduction and immobilization. He was back in school one week after the procedure.

Fig. 3. Fracture displacement of left condyle. Immobilization accomplished by wires from nasal bones to teeth of mandible (naso-mandibular fixation).

Comment

This case represents a naso-mandibular attachment for immobilization, plus the use of the patient's denture. If a denture had not been available, one might have fashioned a dental splint of some type of compound like acryllic which could have been utilized instead of the denture. Such a splint could have been fixed, in the event that it was applied to the lower jaw, by circumferential wiring. In this case, there was no danger of injury to the permanent teeth or to the follicles, in view of the age of the patient, like in the previous one.

To supplement immobilization in children after some other method has been employed to reduce the fracture, one may use a head cap with a sling extending from projections from the head cap to the sling which is placed under the lower jaw and is made of some material such as an elastic bandage. The sling may be attached to the head cap extensions by multiple elastic bands in order to obtain constant, rather firm pressure upon the lower jaw in an upward direction. This head cap and sling can only be utilized

without other methods in cases of linear nondisplaced fractures. While it serves as a reminder to the youngster to keep the jaw idle, it does little more than this in the way of immobilization. It should not be depended upon for such a purpose.

Summary

A rather simple and successful method of immobilization of the fractured mandible is described. This procedure is not original with us, but does not seem to be as well known as it should be. By its use, there is a minimal chance of disturbance of deciduous tissue and future development of the lower jaw, little risk to the patient from surgery, slight discomfort, and no significant interference with nutrition.

We have, over the past year, dealt with many maxillofacial fractures. The less dangerous and most successful method of obtaining reduction, sound union of bone, and normal dental occlusion is by the use of lugged arch bars (Winter, Erick, or Jalenko splints) affixed to the upper and lower teeth by wiring, with the joining of the lugs of the arch bars by properly placed elastic bands. This treatment modality is not applicable to children for reasons which have already been stated. Again, in adults, direct transosseous wiring may be the procedure of choice because of lack of teeth, economical motives, and so forth. It is not to be utilized in children otherwise than in exceptional conditions.

Bibliography

1. Waldron, C. W., Balkin, S. G., and Peterson, R. R.: Fractures of Facial Bones in Children. J. Oral Surg. 1: 215-234, July, 1943.
2. Brown, J. R., and McDowell, F.: Internal Wire Fixation for Fractures of Jaw. Surg., Gyn. & Obst. 74: 227-230 and 75: 361-368, 1942.
3. Lewis, G. K.: The Fractured Mandible. J. Oral Surg. 8: 2, 95-114, April, 1950.
4. Freid, M. G., and Baden, E.: Management of Fractures in Children. J. Oral Surg. 12: 129-139, April, 1954.
5. Georgiade, N. G., and Pickrell, K. L.: Treatment of Maxillofacial Injuries in Children. J. Internat. Col. Surg. XXVII: 5, 640-648, May, 1957.
6. Thoma, K.: Oral Surgery. 3rd Edition, C. V. Mosby Co., pp. 436-698.

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Prevent Some Strokes

Many persons who suffer temporary "warning" strokes can be spared a full-blown and possibly fatal stroke. The findings support the view that long-term anticoagulant therapy affords protection from strokes to a significant percentage of patients who suffer intermittent attacks, according to three Mayo Clinic researchers.

Drs. Robert G. Siekert, Clark H. Millikan, and Jack P. Whisnant, Rochester, Minn., reported results of a study involving 230 patients in the April 8th Journal of the American Medical Association.

The patients were studied for periods of one to five years. The incidence of strokes among 115 patients who received anticoagulant drugs continuously was 4 per cent, compared with an incidence of 40 per cent among 40 patients who did not receive this treatment.

Among the treated group, 83 per cent escaped a stroke while only 50 per cent of the untreated patients escaped.

Carbon Tetrachloride Poisoning

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This is one of periodic articles on common poisonings which will be published in The Monthly from time to time. It is prepared by Dr. Kaye in collaboration with the Richmond Poison Information Center.

CARBON TETRACHLORIDE is a very effective solvent and cleaner, but unfortunately it may be quite toxic. Deaths have occurred due to accidental exposure, in the home and in the factory.

Synonym: Pyrene, "Carbona, CCl_4.

Uses: Cleaning agent, degreasing agent, fire extinguisher, antihelmintic, dry cleaning clothes or rugs.

Properties: Heavy, colorless, non-inflammable liquid, sweet, penetrating, odor, B. P. 76° C.

MLD: Approximately 6 ml./150 lb. man.

Remarks: Carbon tetrachloride when thrown on fires or when heated produces phosgene which is very toxic. Inhalation of carbon tetrachloride while cleaning clothes or window blinds has caused fatalities. It is absorbed rapidly through all surfaces including skin; the presence of oil or alcohol enhances rate of absorption.

Symptoms: In acute poisoning due to inhalation of high concentrations, as could be the case in its use as a dry shampoo, rug or venetian blind cleaner, there is a direct toxic action on the myocardium as well as central depressor and peripheral vasodilator actions. There is a sense of fullness in the head, dizziness, headache, ventricular fibrillation, stupor, unconsciousness. Death may occur within several minutes.

Immediate: After oral ingestion of large amount of this compound there is a feeling of warmth in the stomach region followed by inebriation, hiccough, convulsions, headache, abdominal pain, nausea, vomiting and diarrhea. Death may occur as a result of cardiovascular or respiratory collapse.

Recovery from the immediate effect of the poison does not preclude the possibility of a relapse and careful observation of the patient is necessary for at least three or four days. Carbon tetrachloride exerts a toxic effect which may be latent but is still acute on the liver and kidneys. Twelve to thirty-six hours after ingestion there may be headache, muscular pain, general malaise, nausea, vomiting, diarrhea, abdominal tenderness, (especially liver area) and jaundice.

Delayed: There are some signs, symptoms and pathologic phenomena which may not manifest themselves until from two to eight days after exposure. The headache and malaise persists, as do the gastro-intestinal symptoms, and at this point it is not unusual for bloody stools to appear. Clinical signs of hepatitis may appear with a large tender liver and increasing degree of jaundice, as well as oliguria or anuria resulting from direct kidney damage. There is usually some back pain associated with this. If a carbon tetrachloride exposure is not recognized or not fully comprehended, death may result from pulmonary edema sometimes related to excessive intravenous fluid therapy. Even if this is not the case, there will be an elevation of blood pressure, an increase in non-protein nitrogen, and potassium in the blood as a result of renal failure, acidosis, marked restlessness, convulsions, stupor, and possibly death. The death may be due to potassium

intoxication or a generalized reaction due largely to retention of toxic waste products.

Hypertension may not appear immediately but usually a few days after the kidney damage becomes apparent. The acute liver damage is at a maximum in forty-eight hours and there have been several cases reported where evidence of liver damage had cleared before the kidney effects became apparent. Death due to the lower nephron nephrosis can usually be averted because the lesion will repair itself in time and recovery may occur if the patient can be carried through this period.

Identification: Separated by steam distillation.

(1) Odor of carbon tetrachloride on the breath or in the vomitus. Positive Fehling's test for sugar in urine.

(2) Isonitrile Test: Place a small amount of suspected liquid in 10 ml. of water; or use 10 ml. of distillate. Then add 1 ml. of purified aniline and 2 ml. of 20% sodium hydroxide and gently heat this mixture for several minutes. A positive result produces a foul odor of phenylisonitrile (skunk odor). Other chlorinated hydrocarbons such as chloroform, trichloethylene, or chloral hydrate also give a positive reaction.

(3) Pyridine Test: To 1 ml. of suspected fluid or 10 ml. of distillate add 5 ml. of sodium hydroxide and 5 ml. of purified pyridine. Gently heat for 5 to 10 minutes on a steam bath. A pink-red color may indicate carbon tetrachloride. Chloral hydrate, chloroform, or other chlorinated hydrocarbons also give similar reactions. If distillate or solution is very dilute, first concentrate it by extraction with n-heptane and then do test on this.

Microdiffusion test may be employed directly on biologic specimen.

(4) Reflux 2 hours with sodium hydroxide and titrate for organic-bound chlorides.

(5) Beilstein Test. Burns with a green flame with CuO heated on a copper wire. All chlorinated hydrocarbons —> green flame.

(6) Liver and kidney function tests may be suggestive.

Treatment: Gastric lavage with caution with saline solution; saline cathartics. Avoid fats, oils, alcohol, epinephrine, ephedrine, or related sympathomimetic stimulants. Remove contaminated clothing. Artificial respiration and oxygen therapy as needed.

Treatment is aimed at keeping patient alive until liver and kidney damage subsides. Supportive measures are essential. Regulate fluid intake and electrolyte balance! Caution: fluids only if renal function is adequate!

Death due to lower nephron nephrosis can be usually prevented if patient can be kept alive. Artificial kidney (hemodialysis) is especially valuable in these cases while kidney lesions are repairing.

Antibiotics to prevent possible secondary infection.

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Treatment of the Habitually Hyperemotional Child with Trimeprazine

A Clinical Study

HUBERT T. DOUGAN, M.D.
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This drug is shown to be safe and effective in the treatment of emotionally disturbed children.

ESTIMATES VARY, of course, but some authorities believe that over 50% of the children seen in urban pediatric practice present behavior and personality problems.[1]

The ultimate correction of the "nervousness" and hyperactivity seen in these children requires improving their environment and personal outlook while bolstering their feelings of security and self-acceptance. However, many of these children have disruptive symptoms (irritability, belligerance, etc.) which make them therapeutically unapproachable. In these cases, and when basic causes have been identified, the use of sedatives or other calming agents to relieve such disruptive and self-perpetuating symptoms is often a useful, or even vital, first step in the treatment process. Unfortunately, however, even the more commonly used pediatric sedatives have certain drawbacks (e.g., paradoxical stimulation, clouding of the higher centers), and therefore newer agents that might produce more predictable results would be welcome. Because recent reports[2,3,4] of a new antipruritic, trimeprazine,* have mentioned that it was well-tolerated by children and had a mild sedative effect, I evaluated it as adjunctive therapy in the treatment of hyperactive and sleepless children.

Thirty-three children were selected for the study. Of these, 27 (15 boys and 12 girls) were between the ages of two and 12 years (average: seven years), and six were infants. The older children presented various symptoms of behavioral disturbances including "nervousness", tension, insomnia or restlessness, irritability and crying, belligerance, negativism, and, in six children, somatic or functional complaints such as enuresis, headaches, vague pain or coughing. School problems were reported in 14 cases; in fact, the child's teacher was often the one to suggest medical consultation. Most of these 14 children were doing poor work in school, lacked interest, had brief attention spans and "couldn't sit still". In addition, many were tense, worried, and unable to get along with the other students. The six infants had acute sleep disturbances and a resultant hyperirritability. In all cases the children had previously failed to respond satisfactorily to such measures as changes in diet or daily schedule, warm baths at bedtime, parental affection, and especially with the older children, reassurance and counseling of both child and parents.

The dosage of trimeprazine, which depended on the age of the child and the severity of his symptoms, ranged from 1.25 mg. at bedtime (for the infants) to 7.5 mg. a day, in divided doses, for the older children. The usual daily dose in the children over two was 2.5 to 5.0 mg. The drug was available in 2.5 mg. tablets and as a flavored syrup

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* *Temaril*

(2.5 mg./5 cc. teaspoon); the tablets, however, were used in only two patients, both older children. In addition to administering the drug, the parents were asked to give the child their interest, assurance, and approval. They were also encouraged to revise their demands on the child if these were incompatible with his abilities, and to allow the child opportunities for normal satisfaction and self-expression.

Trimeprazine was administered for from one to 17 weeks (average five weeks). The children were seen at least once every two weeks. In addition to normal examination procedures, complete blood counts and hemoglobin determinations were run in 29 of the children, including 23 who were tested both before and after treatment.

Results

The results of this symptomatic therapy were graded simply as satisfactory or unsatisfactory. In the older children, satisfactory indicates that the child's hyperkinesia, over-reaction to minor stresses, and general irritability were reduced enough so that he could accept more basic treatment. Relief from insomnia, from physical symptoms of probable psychic origin, or from school difficulties was also taken into consideration, as was the absence of any serious side effects. In the infants, of course, satisfactory indicates a relief from sleeping difficulties and the absence of any side effects.

Satisfactory results occurred in 28 of the 33 children, including all six infants. Of the five children who obtained little or no relief, four had somatic symptoms such as itching or coughing. These symptoms did not improve in two patients, despite a fair calming effect. Itching was relieved in another patient, but he remained quite restless, and the fourth patient with somatic symptoms was neither relieved of his symptoms nor significantly calmed. A satisfactory response in the older children was characterized by a decreased irritability and restlessness, fewer "temper tantrums", a more cooperative and sociable attitude, and improved sleeping habits. One mother, for example, reported that her child "could be lived with again"; another said that "for the first time in months the whole family is sleeping again." While there was the usual small percentage of children to whom any medication was anathema, most of the children readily accepted the syrup.

Thirteen of the 14 children with school difficulties improved substantially in classwork and attitude. Previously inattentive or restless children stopped "fidgeting" in class and their attention span seemed increased. Teachers' opinions were usually expressed in statements such as "He gets along with other children much better", or "He seems more interested in work and is doing better."

The most dramatic, certainly not an average, result, occurred in an 11-year-old girl who was rather tall for her age (63 inches) and weighed 100 pounds. Although she claimed to like school, her work was not very good, and she did not get along well with the other children. Because she complained of various pains and headaches, a complete physical examination and an eye refraction were done: they revealed no abnormality. Her hemoglobin was 12 grams percent, red blood count 4.39×10^6 per cubic mm., and white blood count 7,500 per cubic mm. Treatment with 2.5 mg. of trimeprazine syrup upon rising, in the afternoon, and at bedtime was begun and was continued for eight weeks. During this period the girl stopped complaining about organic symptoms, became much more relaxed, and began to take more interest in her studies and in the other children at school. When the drug was discontinued, her hemoglobin was 13 grams per cent, RBC was 4.5 and the WBC was 8,100. Since stopping the medication, her improvement has continued and her teacher reports that she has become not only more cooperative and sociable, but a leader of the class. The change in this child was extraordinary, and represents the most complete reversal symptoms seen during the study. More typical of the changes observed

is the history of a tense, "nervous" seven-year-old girl who cried easily and found it difficult to go to sleep. She received 2.5 mg. of trimeprazine three times a day for six weeks. She soon (within the first week) stopped crying, began to rest more comfortably, and became more relaxed. Both of these girls were interviewed several times, and the cooperation of their parents was enlisted to insure continuous over-all therapy.

None of the side effects or paradoxical reactions sometimes associated with the use of common pediatric sedatives occurred in the children treated with trimeprazine, and no abnormalities were found in the blood tests run in 29 children. This drug, however, shares with sedatives a liability common to any effective symptomatic therapy for children. This liability lies in the very effectiveness of these medications, which can lead the child or his parents to rely on drugs alone, and thus encourage unwarranted long-term therapy with drugs and its concomitant, a neglect of the child's basic problems and needs. No such prolonged use occurred here, but some parental over-reliance on the drug with neglect of basic treatment was seen. For example, when trimeprazine was withdrawn after four to six weeks from eight children whose hyperactivity or insomnia seemed to have been controlled, these symptoms promptly recurred. Treatment with the drug was restarted in five of these children and the calming effect was again noticeable. In the other three children the medication was not reinstated, because the parents seemed to be using the drug as a replacement for affection, understanding, and guidance, rather than as an aid to administering these basic measures. More intensive interviews were begun with these parents to emphasize their roles in therapy. Parental misuse of the drug may also have been responsible in part for the other five cases of recurrence of symptoms.

Comment

The severely disturbed child should, of course, be referred to a psychiatrist or child guidance clinic for intensive treatment including play therapy, interviews, tests, or the use of various drugs. Not their province alone, however, is the use of calmative agents. In many routine cases of troublesome behavior in a child, such as in those cases reported here, a mild calming agent is a valuable supplement to over-all treatment. Indeed, in some cases, it is *a sine qua non* of any effective therapy. In addition to directly supplementing and facilitating basic over-all treatment, a calmant also fosters more effective concentration on school work and more rational social behavior in the problem child. His resulting better school grades and more calm and congenial manner tend to make this type of child more acceptable in the eyes of his parents, teachers and peers. This acceptance in turn reassures the confused child that the world still likes him, despite his recent poor behavior. Often, this bonus of reassurance for the child will in itself make the use of a calming agent well worthwhile.

Summary

In a clinical evaluation of trimeprazine as a pediatric calming agent, 27 habitually hyperactive and hyperemotional children and six infants with severe sleep disturbances were treated with the drug for from one to 17 weeks. Eight of the older children had difficulty in sleeping, 14 had school problems, and six exhibited physical symptoms that had a psychic component. Satisfactory results were obtained in 22 of the 27 older children and in all six infants. Hyper-reactive conduct and sleeplessness were greatly reduced in most children, and almost all school difficulties were mitigated. The physical symptoms of three children were not appreciably relieved, although a calming action was seen in two of them. Blood tests were run in 29 patients (both before and after treatment in 23), with negative results. No side effects were seen.

References

1. Holt, L. E., and McIntoch, R.: Pediatrics, ed. 3, New York Appleton-Century-Crofts, Inc., 1953, p. 984.

2. Dickstein, B.: Trimeprazine for Pruritus in Children. J. Albert Einstein Med. Center 7(2): 115-17, April, 1959.

3. Robinson, R. C. V., and Robinson, H. M., Jr.: Control of Emotional Tension in Dermatoses. South. Med. J. 51(4): 509-13, April, 1958.

4. Green, M. A.: Clinical Evaluation of a Unique Antiallergic Drug—Trimeprazine. Ann. Allergy 16(6): 619-25, Nov.-Dec., 1958.

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Germ or Gas War

As a defense against possible biological or chemical warfare, the Office of Civil and Defense Mobilization (OCDM) is planning a nationwide detection system and a program calling for mass distribution of protective masks.

Plans for protecting the civilian population against such attacks were discussed by Leo A. Hoegh, former OCDM director, in an exclusive interview with Today's Health magazine for March, published by the American Medical Association.

"Our nationwide fallout detection and monitoring network is being equipped to detect gas and germ weapons effects. This will take time and money, but the work is proceeding."

Early detection, identification, and warning systems are a major defense against chemical and biological warfare.

OCDM also is preparing for mass production of a civilian protective mask of new design which will provide easy breathing, good vision, and easy conversation. In the new mask, the bulky canister used to filter out the harmful agents has been replaced by filter pads located at cheek positions.

Public distribution of the masks will be through selected retail stores at about $2.50 each. They will be available in six sizes. "A public information program concerning the use of the protective masks will be timed with their retail distribution."

Asked specifically about biological warfare, Hoegh said:

"The Department of Health, Education and Welfare, under OCDM delegation of authority, has initiated the program to protect the civilian population. Its major objective is education of individuals and families in self-protective measures.

"This program also includes the control and prevention of diseases resulting from BW (biological warfare) attacks; the safeguarding of our food, pharmaceutical, and water supplies; special training and education of doctors, nurses, and other professional personnel in the recognition and diagnosis of the diseases involved; rapid detection and identification of the causative agents; care, treatment, and rehabilitation of casualties, and the stockpiling of necessary emergency drugs, pharmaceuticals, equipment, and supplies."

Citizens should have all standard immunizations offered by their doctor and local health authorities, and the highest priority has been given by OCDM to the research and development of immunizing agents against diseases for which no protective biologics now are available.

Although there has been much talk about biological and chemical warfare, "this black art hasn't yet reached the level of efficiency of nuclear war."

A recent special study for the Senate Foreign Relations Committee has described chemical and biological weaponry as "exaggerated" as to present military utility and still far from any possible use capable of strategic decisiveness, although this picture may change in the next few years.

The graver dangers of nuclear war merit our more intensive efforts, he said, but we certainly are not neglecting biological and chemical warfare defense.

Managing Alcoholics With Serpasil and Ritalin

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The author has been successful in treating alcoholics with these drugs. The depression sometimes seen when Reserpine is used alone does not occur when the combination of drugs is given.

MANAGEMENT OF ALCOHOLICS, particularly those who are institutionalized, would be very difficult indeed without barbiturates, chloral hydrate, paraldehyde and other similar agents. However, although used extensively, these drugs have brought with them the possibility of drug addiction, respiratory center depression, drug tolerance, oversedation, and paraldehyde odor.

In recent years, the development of the so-called tranquilizers has helped change this treatment picture markedly. Reserpine or Serpasil and other such calming agents provide a necessary quieting effect with the practical elimination of drug addiction. Greenfield in an article on alcoholism noted that "Reserpine would seem to offer many advantages over the usual sedatives in the treatment of acute alcoholism, not the least of which is elimination of the danger of drug addiction."

Moreover, reserpine has also reduced the time element required to bring these alcoholics back from the depths. Various studies[1-4] with reserpine (Serpasil®) note an achievement of patient control within nine hours and complete control in 48 hours.

Despite their ability to control aggressiveness and other antisocial behavioristic actions, the high dosages required of these agents has led to sleepiness or even feelings of depression in some cases. Because of this, many clinicians have hesitated to use them regularly.

However, a new stimulant, Ritalin®, has been introduced which apparently overcomes the side effects of these drugs by antagonizing their action. Although chemically unrelated to either the amphetamines or caffeine, Ritalin has the stimulating properties of both these agents. Therapeutic dosages increase alertness and psychomotor activity in patients with symptoms of fatigue, oversedation and depression. Moreover, Ritalin has been used alone and with some success in the diagnosis and treatment of alcoholics. (Hartet, etc.)

Since both Serpasil and Ritalin have proved of value in treating alcoholism, we set out to evaluate their activity as a combination. For a period of one year, from May, 1957 to April, 1958, we investigated Serpasil and Ritalin in conjunction with the gradual withdrawal of alcohol in a total of 107 patients in our private sanatorium.

Materials and Methods

The patients were voluntary male admissions to a small privately owned sanatorium and were all in the 40 to 60 year age group. The sanatorium was opened in 1947 by a member of AA and most of the attendants were AA members. A good many of the patients had been admitted previously. Since their usual behavior pattern was thus known to us we had a better opportunity to evaluate the effect of the drugs used in this study.

No patient with a history of ulcer, gastrectomy or depression was given Serpasil; however, Ritalin was used in these patients when indicated by remorse or depression.

In the first group the use of Serpasil alone was tried on five patients. They were given 2.5 to 5 mg. Serpasil intramuscularly on admission and 1 mg. orally each morning for three to five days. It was found to cause some depression and three of the five complained of a heavy or oppressive feeling in the chest on the second or third day.

However, all slept better and required less alcohol and other sedation during the withdrawal period.

One of the patients slept most of the first two days and took eight drinks whereas on his previous admission he took 28 drinks during the same period of time. No other sedative was given during this time.

In the second group, the addition of Ritalin to the dosage schedule eliminated the complaints experienced by the first five patients. A series of 42 patients were given 5 mg. Serpasil I.M. upon admission, then 1 mg. Serpasil and 10 mg. Ritalin orally at 7 a.m. and 10 mg. Ritalin at noon. Serpasil was discontinued on the fifth day, and Ritalin or Serpatilin (Serpasil and Ritalin in one tablet) was given on a b.i.d. or t.i.d. basis until discharged. This group was more easily managed than upon prior admissions; less alcohol and sedatives were necessary and the attitude of the patients was more cheerful. The attendants stated they were much more co-operative.

In the third group, the dosage schedule, which was used on 60 patients, consisted of 5 mg. of Serpasil upon admission and 1 mg. Serpasil and 20 mg. Ritalin at 7 a.m. and also at noon. This group did as well as the second group but no great differences were noted from the second group.

Two patients who were deeply depressed upon admission were given Ritalin along with the routine withdrawal of alcohol. The first case, who was found to be addicted to barbiturates, also was given 10 mg. of Ritalin t.i.d. (this case was treated in July, 1957, when the dosage of Ritalin was relatively small) and poor results were obtained. We feel that had more Ritalin been used the outcome would likely have been different and better.

The second case (treated in April, 1958) was so depressed upon admission that suicidal precautions were taken with him.

When given Ritalin 20 mg. t.i.d. he made a remarkable recovery. He discontinued alcohol on his second day but was given bedtime sedation when needed. When discharged, he was taking 10 mg. Ritalin t.i.d. and was most grateful and satisfied as to his improved status. He was asked to continue the Ritalin at home under the supervision of his family physician.

Some of the patients in this series who were difficult to manage upon prior admissions due to their high tolerance to alcohol and other sedatives, were given 50 to 100 mg. or Promazine I.M. the first night along with the routine Serpasil and Ritalin schedule. The rapid action of Promazine augmented by the alcohol present in these patients was most dramatic. A belligerent, noisy, and restless patient could be calmed down and usually put to sleep in a matter of minutes.

For routine sedation the usual bromides, barbiturates, chloral hydrate and paraldehyde have been used since the sanatorium opened, but for the past two years the sedation preferred by the attendants has been Doriden® 0.5 gm. given with the 9 p.m. drink during the withdrawal period and repeated once or twice as needed each night until the patient was off of alcohol. He was then given one half to one gram of Doriden one hour before bed time as needed until discharged.

Summary and Conclusions

1. One hundred and seven alcoholic patients were treated with Serpasil and Ritalin in our private sanatorium. We found both preparations extremely helpful in treating alcoholic patients successfully in conjunction with other withdrawal procedures.

2. Large doses of Serpasil alone was depressing when used in conjunction with the gradual withdrawal of alcohol in the man-

agement of alcoholism. However, the addition of Ritalin to the dosage schedule eliminated these depressing effects.

3. The optimum dosage seemed to be 5 mg. of Serpasil on admission and 1 mg. daily for five days combined with the concomitant use of 20 to 60 mg. of Ritalin daily in divided doses which was continued until the patient was discharged.

4. Ritalin alone was found to be a valuable adjunct to the withdrawal of alcohol in the depressed or remorseful patient.

5. Doriden was found to be the best all-around general night time sedative both with alcohol and after the alcohol was withdrawn.

Bibliography

1. Avol, Milton: Treatment of Delirium Tremens with Reserpine (Serpasil). J.A.M.A. 159: 16, Dec. 17, 1955.
2. Grandon, R. C., Heffley, W., Hensel, T., and Bashore, S.: A New Medical Adjunct to the Treatment of Alcoholism. Am. Pract. and Digest of Treat. 7: 2, Feb., 1956.
3. Greenfield, Alfred R.: Office Treatment of the Acute Alcoholic. Am. Pract. and Digest of Treat. 8: 8, August, 1957.
4. Pickard, J. M.: The Use of Reserpine in the Management of Alcoholic Patients. Clinical Medicine 5: 4, April, 1958.
5. Bachrach, William H.: Reserpine, Gastric Secreton, and Peptic Ulcer. Am. J. of Digest. Dis. 4: 2, Feb., 1959.

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Malignant Tumor Not Hopeless Disease

Malignant tumor, a rare form of cancer, is "not a hopeless disease," according to an editorial in the April 8th Journal of the American Medical Association. The editorial and two accompanying articles seek to dispel a commonly-held belief that the disease is "the most lethal of cancers in man."

It is "probably no better or no worse" than any other cancer. This type of cancer usually develops from a mole and has a tendency to spread.

"When malignant dengeration begins, sufficient time remains in the majority of cases to act quickly and effectively." The rate of survival may be as high as 20 per cent after 10 years. In a series of 130 cases at Ohio State University Medical Center from 1947 through 1957, the survival rate was 32 per cent for 5 years and 19 per cent for 10 years. In 120 of the cases, surgery was the method of treatment.

Dr. Arthur G. James, Columbus, Ohio, said the figures indicate "this disease should not maintain its past reputation as one of the most lethal cancers in man."

"The curative possibilities are definite. Also . . . the patient can be offered good and often long-term palliation."

In another article, Dr. Gordon McNeer, New York City, discussed the history and behavior of malignant tumor and concluded that "cure of this disease may be attained in a high percentage of patients in whom the disease is confined to one anatomic site."

When the disease is limited to the primary site, five-year survival free of cancer is attained in 40 per cent of the cases. When the disease has spread, "the outlook becomes considerably less favorable, although not hopeless."

Mental Health . . . .

STANLEY SPIEGEL, Ph.D.

The Use of Puppets as a Therapeutic Tool with Children

As an adjunct to individual and group therapy with children, puppetry presents many unique qualities which we believe greatly contribute to the recovery of youngsters with emotional difficulties.

Puppets have served therapeutically with children long before concepts of play therapy and psychotherapy were labelled. One of the earliest applications of puppetry to current concepts of the dynamics of emotional disorders in children was made by Woltmann,[1] a New York psychologist who has used puppets extensively with children, especially in the Pediatric Ward of Bellevue Hospital. Woltmann's unique contribution is the interplay of puppets and audience, and the specific emphasis on problems that confront youngsters. Some of his scripts can be found in published form, and much of them have been borrowed for our use in this center.

In our puppet sessions certain characters retain a constant identity from session to session. They include Casper, who appears as a typical boy somewhere in the six to twelve year age level, his parents, his dog, his girl friend, a boy friend, and a witch. Casper finds himself in varying situations not unlike those the youngsters are confronted with, and he must solve problems and deal with a variety of circumstances and feelings. Unlike a conventional puppet show, these puppets often stop and consult the audience, ask for their advice and discuss problems with them. There is frequent and spontaneous departure from the scripts in line with therapeutic concepts, and there is a considerable amount of interchange between puppets and the audience.

Through this form of puppetry the children learn that others have problems not unlike theirs, that adults can understand these problems or are at least aware of them, for they realize that adults are operating the puppets and supply their personalities. They also learn that there are different solutions to the problems they face, certainly more constructive kinds of solutions than those that they themselves might be using. In addition to being therapeutic, it clearly serves as a diagnostic tool. There are undoubtedly more subtle factors involved in this application of puppetry, and psychoanalytic and other dynamically oriented theories can be readily applied.

Our children's groups number from seven to ten youngsters in an age range from about six to ten, depending of course on the problems unique to the child. Most of the children have such difficulties as persistent enuresis, excessive fears, uncontrollable behavior, temper tantrums, unusual timidity, or excessive anxiety. As the puppet therapy is combined with play therapy, all of them participate in this additional activity. Some youngsters are also seen in individual therapy sessions, and some of the youngsters' parents may also be in therapy. It is not unlikely that an adult therapy group will be conducted with parents of these children. The session is two hours long, only half of which time is used for formal puppet presentation. The remaining time includes time for manipulation of other puppets by the children themselves, and conventional group play therapy. Variations of this are considered and changes in procedure are introduced as they appear to be germane. In the formal presentations the puppets are manipulated by a male and female therapist.

STANLEY SPIEGEL, PH.D., *Psychologist, Portsmouth Area Counseling & Guidance Clinic.*

Approved for publication by Commissioner, Department Mental Hygiene and Hospitals.

The remainder of this article is composed of excerpts from tape recordings made during puppet sessions, and include much of the interplay with the children. All references in the transcript to children are noted in italics and refer to those in the audience. Most children verbally participate, and the comments recorded come from several different youngsters.

PUPPET SCRIPT

Section I

Casper: Why should I all of a sudden have to wash myself? You always wash my hands and face for me. Why not do it again today?

Mother: No, Casper! You're getting to be a pretty big boy. You have to learn to do these things by yourself. Now run along.

Casper: I don't want to. You come with me.

Mother: Casper, I'm surprised at you. Run along and do the things I told you to do. Daddy will be home soon and we all want to be ready when he comes.

Casper: Aw, come on Mother dear, you always used to do these things for me. Do it again.

Mother: No, dear son. I told you several times. You have to do these things yourself. You're a big boy—you have to learn to do these things yourself.

Casper: But, I don't want to. I don't want to grow up. I don't want to learn to do these things myself.

Child: *Me either.*

Casper: You either?

Child: *I don't want to either.*

Child: *Just tell her to scram.*

Casper: Tell her to go away? But I want to be her little boy. I want her to be my mommy that does everything for me.

Mother: You know you cannot always be a little boy. You're growing up and now you have to learn to do things yourself.

Child: *Uh, huh. . . .!*

Casper: But why do I have to learn to do things now?

Child: *Because you're getting too big for your britches.*

Casper: Why can't I wait till next year?

Mother: Well, Casper, there's something I want to tell you, and I might just as well tell it to you right now.

SECTION II

Mother: Mother has some shopping to do and she wants her big boy to take care of his little baby sister while mother is out.

Child: *O.K.*

Mother: Will you take care of her?

Casper: All right, I'll take care of her.

Mother: Oh, that's a good boy. Now you watch while Mother is gone. If the baby wakes up and starts crying, give her the bottle. You'll find the milk bottle in the icebox. I won't be long. Bye, Bye.

Child: *Casper, don't do it.*

Casper: No?

Child: *Wake her up and let her start crying.*

Casper: Dad is working and Mother is out of the house.

Child: *Now you can do it.*

Casper: Now is my chance to get even with you. I told you I don't want you around. Now is my chance to get rid of you. What should I do with this bratty baby sister?

Children: *Push her down. Throw her down. Put her in the trash can. Throw her out the window, put her in the toilet. Go up in the elevator thirty-two stories and push her down. Wake her up and beat her. Push her down. Throw water in her face.*

Casper: O.K. Thank you. Thank you for trying to help me. I'd like to do what you tell me, but I can't. You know, my father is a detective.

Child: *Uh-oh!*

Casper: And if I kill my baby sister, he and all the other detectives will find out soon that I did it, and they'll have to take me to prison, and if I go to prison I don't

get to be with my mother anyway. There must be some other way.

CHILD: *Wake her up. Wake her up and put tape on her mouth.*

SECTION III

CASPER: Well, anyway that's enough to buy a candy bar, isn't it? Seven cents. And the candy bar only costs a nickel. Yeah, then I have two cents left over for myself.

CHILD: *Uh-oh. You know what your mother said!*

CASPER: What did she say?

CHILD: *She said bring her the change back, and then you may go to the woods.*

CASPER: Oh, but I'd sure like a candy bar.

CHILD: *Go ahead and buy it, and get in trouble.*

CASPER: I'll get in trouble if I buy it?

CHILDREN: *No you won't. Yes you will. No you won't. Yeah you will. I've done it before. I got in trouble. I did and I didn't.*

CASPER: Well, I guess you're right. Maybe it would get me in trouble.

CHILD: *No you won't. Your mother won't care. Your daddy might spank you but your mother won't care.*

CASPER: Well, I don't know. I don't think I'll take a chance. It would be nice to have one, but I don't think I'll do it.

CHILD: *Why? You won't get into trouble.*

CASPER: I'm afraid I might get in trouble.

STOREKEEPER: Casper, while I was back there getting the eggs, your mother called and told me it would be all right for you to buy a candy bar and take it home with you to eat after supper.

CASPER: Golly, mothers and daddies always seem to know what we want even when we don't tell them. They must have some kind of magic. How do they know what we want all the time?

CHILD: *They're mind readers.*

CASPER: Oh, I'm sure glad I didn't buy it without telling her. Thank you, Mr. Storekeeper.

STOREKEEPER: Goodbye, Casper.

CASPER: Goodbye.

SECTION IV

FATHER: I stopped to buy Casper a real live baby alligator.

MOTHER: Won't he bite?

FATHER: No, he's just a baby and he's nice. He won't bite.

MOTHER: Father, when are you going to give it to Casper? Can I see it?

FATHER: Sure, I'll get it now.

MOTHER: Let's call Casper. CASPER, come in here. We have a surprise for you.

CASPER: Surprise? Surprise?

CHILD: *Hey, Casper, that's a present.*

CASPER: Is that surprise for me, or am I for him?

CHILDREN: *You're for him. He's for you.*

CASPER: For me?

CHILD: *For you to eat.*

CASPER: I'm sorry I cried before. You're not going to let him eat me, are you?

MOTHER: Oh, don't be silly, Casper. He's a very friendly alligator.

CASPER: But you look scared.

MOTHER: (in frightened tone) Oh, I'm not scared.

CASPER: That's the trouble with grownups. They say one thing and they mean something different. I wish you would tell me you're scared. Grownups get scared too, you know.

SECTION V

WITCH: I told you I don't do little boys' homework.

CHILD: *Kill her, kill her.*

WITCH: I can't keep coming back and forth. Now don't bother me again or I'll turn you into a frog.

CASPER: Golly, you've got a lot of magic, witch. Now, you do my homework. You just say the magic words and it'll be done. Don't go, witch. If you do my homework I'll give you my alligator.

WITCH: Oh, I don't want your alligator.

CHILD: *Let her have your father.*

CASPER: Father?

CHILD: *Let her have your baby sister.*

CASPER: Baby sister? I can't give that away. You know my father is a detective.

CHILD: *Let her have your father.*

CHILD: *Let her have your homework, and then when she comes back, you'll have it all done.*

CASPER: Thank you, witch. Now you don't eat too many frogs or you'll get a tummy-ache.

WITCH: Goodbye.

CASPER: Now my homework's all done and I can play.

CHILD: *Casper, wait till I tell your mother.*

CASPER: You're going to tell my mother on me?

CHILD: *Yes.*

CHILD: *No.*

CASPER: I'm going to tell my mother that I finished my homework. MOTHER, MOTHER, MOTHER.

MOTHER: Yes, Casper.

CHILD: *Wait a minute, Casper didn't do it. The witch did all his homework and then the witch went away.*

MOTHER: Oh, what is this? I don't believe in witches.

CHILD: *But there is a real witch.*

CHILD: *She said Abracadabra.*

CASPER: Oh, I did my homework. You don't believe in witches.

MOTHER: I certainly don't and I'm very glad you did your homework. After dinner your father will look it over. It's time for dinner, so come on, let's go.

CHILD: *Wait a minute, I want to talk to Casper while you go out.* (mother leaves)

CHILD: *Casper, Casper.*

CHILD: *You shouldn't have done it. Your father can see the witch's fingerprints.*

CHILD: *She might have done it wrong, Casper.*

CASPER: Yeah? You kids will have to wait till after dinner. I have to go to dinner. I'll come back later, all right? Goodbye.

CHILD: *He can see the fingerprints.*

CASPER: Golly, that's right, maybe he can. I'm scared but I have to go to dinner, and I'll come back later.

We are now using this method with our third group of children, so that more than thirty youngsters have had puppetry as part of their therapy experience. Naturally, it is difficult to ascertain the most essential therapeutic ingredient in the treatment of any emotional disorder, but the progress shown by these youngsters appears to be significantly greater than we have noted with children not exposed to this form of treatment. When we have amassed a sufficient number of cases, more rigorous criteria will be utilized to evaluate the efficacy of our method.

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1. Woltmann, Adolf G., The Use of Puppetry as a Therapeutic Method. In Anderson, H. H. and Anderson, G. L. (Ed.), An Introduction to Projective Techniques. New York.: Prentice-Hall, Inc., 1951. Pp. 606-638.

Pre-Paid Medical Care....

Edited by
RICHARD J. ACKART, M.D.

Deductibles and Co-Insurance.

The January 1957 issue of the Virginia Medical Monthly (Volume 84) presented on this page an editorial which was entitled "Why Not a Deductible?" Several reasons why Blue Cross should not impose a financial barrier between patients and the hospital care they might need were set forth—Blue Cross was established to eliminate this barrier to timely care. But despite the cogency of these reasons, one of Virginia's Blue Cross Plans subsequently found it necessary to transfer approximately one-half of its members to a $50 Deductible. Later, an additional out-of-pocket expenditure — a daily co-insurance payment—was required of all these members whose hospital room charges exceeded $12.00.

The Plan now has sufficient data to conclude that the $50 Deductible moderately reduces the frequency of hospital admission. A 6.7% reduction has been realized —from 165 to 154 admissions per thousand members per year. It is to be noted, however, though any reduction of unnecessary hospitalization is a worthwhile end, that the means here employed—the $50 Deductible —provided that many patients quite necessarily albeit briefly, hospitalized for one or two days had no coverage whatsoever.

It is known that some members, after having a disappointing experience in this regard, purchased an indemnity coverage to supplement their Blue Cross; that is, to fill the $50 gap. It is, of course, impossible to determine how many members did so, but the end-result is obvious—a certain number of members with double-coverage, in total paying more than they would need to pay Blue Cross for first-dollar coverage and now being in a position "to make money" by going to the hospital. Herein lies one of the reasons the $50 Deductible produced no more than a 6.7% reduction in hospital admission rates. To the extent that it promotes double-coverage, creation of financial barriers — limitation of benefits — defeats its very purpose.

Also of interest and significance is the fact that, despite the additional daily co-insurance requirement, the members who personally had to pay $50 upon admission remained in the hospital somewhat longer than did those with first-dollar, no co-insurance coverage. The average length of hospital stay of the former group was 8.20 days, while the more adequately protected members had an average length of stay of 8.13 days.

Two reasons for this difference come to mind: (1) that in some cases the financial barrier to timely care brought about postponement of admission until the underlying disease condition progressed or extended to a more critical point, and therefore required a longer period of hospital care for its alleviation; and (2) that, human nature being what it is, in some cases the requirement that he personally pay out $50 prompted the member to remain longer than necessary "to make Blue Cross pay up" or "to get his money's worth."

More than anything else, the function of Blue Cross is to give the public assurances that a high standard of hospital care will be available when needed, and that it will be available without economic hazard to families or individuals. Too often overlooked is the fact that, for a great many people, a $50 barrier between need and care is indeed an economic hazard.

Blue Cross, to be effective as a community service, must constantly work toward higher benefit levels and broader population cov-

erage; always striving to keep the cost as low as possible consistent with the task of providing the community with adequate protection. It follows, therefore, that every effort should be made to increase—not decrease—the proportion of necessary hospital care expense brought within the frame-work of prepayment.

It should be noted, in the context of the above objectives, that Blue Cross has been faced with an economic problem of major consequence. The unit costs of hospital care have tripled since the close of World War II, and at the same time, the per-capita use of hospital service by the public has increased some 50 percent. The cost of hospital care, in fact, has been the fastest rising item in the Consumer Price Index. At the same time the incidence of hospital admissions has greatly increased. In addition to more admissions, people have been using more and more days of hospital care each year. These economic pressures on Blue Cross have spiraled the rates charged the public and have, of course, greatly complicated the task of improving benefits as rapidly as would be socially desirable.

Blue Cross is today an essential community service. It has shifted the financing of hospital care from a private obligation between the sick patient and the particular hospital providing care to a matter of general public and community concern. It is, therefore, to be expected that the affairs of Blue Cross will be continuously under public scrutiny. Certain members of the public, upon becoming aware of Blue Cross' problems, are didactically stating that bigger deductibles and more co-insurance would cure all of Blue Cross' ills. Such a conclusion is erroneous.

Whether or not any one Blue Cross Plan might adopt — or, having once adopted, might retain—deductibles and co-insurance, Blue Cross in general should be encouraged to continue to provide for "full-coverage" of hospital care. Voluntary prepayment becomes regressive in its public purpose when benefits are shifted outside the framework of prepayment in order to lower cost of protection, thus leaving portions of the cost of care to be borne by the public at the time of illness. Certain population groups denied the opportunity to pay in full for hospital care on a budgeted, monthly basis will not be able to pay when ill. There is no cut-rate hospital service and there is no cut-rate benefit program that will offer the protection needed.

The standard of living of the American family is constantly rising. In like manner, the level of protection enjoyed by the family against the increasing costs of improved hospital care should rise at an orderly rate. From every point of view, social, economic, and political—and particularly from the public's point of view—an orderly and systematic rise in consumer allocations to health is a necessary and highly desirable objective. This is particularly true, of course, when increases in consumer allocations make possible higher levels of protection and a better quality of health care.

An orderly and steady increase in the level of benefits, with a corresponding increase in consumer income allocations to health care, is necessary if an expanding health service is to be achieved and pace is to be kept with medical advances. Health care as a component of today's standard of living should not contract, nor should the level of protection shrink.

The public wants more, not less, health care. The public wants more, not fewer, health benefits. The public wants more, not less, prepaid protection. If Blue Cross and other voluntary prepayment mechanisms do not satisfy these wants, the public will turn to that mechanism to which it always in the past has turned whenever disenchanted with voluntary effort and accomplishment.

Public Health....

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Give Salk Poliomyelitis Vaccine Now

For years the approach of the summer months brought consternation to the hearts of mothers who had in mind that poliomyelitis is more prevalent during this season. Poliomyelitis has never been recognized as a disease of high incidence. From time to time the number of cases in some areas has exceeded the number that usually prevails and epidemics have been declared to exist. This is one of the "dread diseases" because it so frequently manifests itself in paralytic form, causing crippling through life, or in the bulbar form, which affects the respiratory center in the brain and often results in death.

With the production of Salk poliomyelitis vaccine in 1955, physicians recognized that they had an agent to immunize individuals against the development of paralysis in this disease. Now there is consternation among those who are responsible for administering the vaccine because parents have not made sufficient use of this agent to protect themselves and their children against paralytic poliomyelitis. The facts are that of the 71 million Americans under 21 years of age, 17.6 million (nearly one out of four) have not received the full series of Salk vaccine. In the most susceptible age group, those under five years, about 38 percent have had fewer than three doses. Young adults who are stricken with poliomyelitis often seem to be less resistant to the virus or to acquire a more virulent form. The crippling in this group is severe; the bulbar form frequently prevails and death causes removal from the home of a valued young parent. The percent of those between 20 and 40 years of age who have been fully immunized is small. A busy pediatrician in another state recently said that it has become his custom to ask parents who have brought their child for polio immunization, "Which would disrupt your family life more, for one of you to have polio or for one of your children?" The answer invariably is "For one of us." Thus, on making them conscious of their obligation to their family of their need to avoid acquiring paralytic polio, they immediately ask for and take the series of Salk vaccine.

What effect does immunization have on the paralytic rate? People who have had three or more doses of Salk vaccine had one-tenth the paralytic incidence in 1960 of those who had no vaccinations and persons with four or more doses had a paralytic rate one-sixth that of the vaccinated group. In other words, the vaccine is 90 to 94 percent effective.

The incidence of poliomyelitis in Virginia, like that elsewhere, is chiefly in persons in the lower socio-economic groups who have not been vaccinated against this disease. The higher the socio-economic level and the better the education of an individual, the more apt he is to have had the series of Salk poliomyelitis vaccine. This has been of such concern to the Public Health Service, and to Health Departments at all levels, that the Surgeon General appointed a Committee on Poliomyelitis Control* to advise on ways and means of extending protection against poliomyelitis through the population of the United States. This Committee met at the Communicable Disease Center of the Public Health Service, Atlanta, Georgia, January 23-24, 1961, and made recommendations which have been widely publicized.

There are four goals in the control of poliomyelitis:

1. Prevention of epidemics
2. Control of epidemics

3. Prevention of endemic poliomyelitis
4. Eradication of paralytic strains of polio virus from the population of the United States.

The recommendations of the Committee are intended to bring the United States closer to these goals.

They consider that the immediate program is to intensify the immunization program. Local community drives should be designed to reach the lower socio-economic and the younger age groups and to bring in young adults through neighborhood organization. This is called the "Babies and Breadwinners" campaign. Every unvaccinated person should be fully immunized against polio for his own protection and to protect the community. First priority should be complete and early coverage of infants and of children under six years of age; next most important are children under 10 and parents of young children.

Vaccination schedules recommended by the Surgeon General's Committee call for four doses, the second one month after the first, a third seven months later, and a final dose one year after the third. This applies to everyone except infants under six months; for them the Committee recommends that five doses be given. The first should be administered at one and a half to two months of age, the next two to be given at intervals of one month after the last dose, the fourth seven months after the third, and the fifth dose one year after the fourth. *At least three doses should be given prior to the beginning of the polio season regardless of age* and these to be followed by a fourth seven months after the third. The last dose is to be administered one year after the fourth. After the completion of either schedule, supplementary booster doses are advised for children on entry to school and for persons with unusual exposure to infection.

The Committee emphasizes that immunization is a medical procedure and should be used only under the direction of licensed physicians or official health departments. They advise periodic evaluations of polio immunization status in all communities. They stress the intensified use of vaccine in the face of an epidemic.

In following poliomyelitis in a community, there should be thorough case investigation with use of laboratory diagnostic service for each sporadic case and a reasonable sampling of epidemic cases. This calls for close cooperation on the part of attending physicians in prompt reporting of suspicious cases and the collection of specimens for laboratory diagnostic procedures. A constant surveillance is necessary when polio-like diseases prevail and laboratory studies are necessary in the investigation of cases and outbreaks of ECHO Coxsackie, and other virus infections simulating poliomyelitis.

In extending immunizations against polio it may be necessary to make behavioral studies to determine why some groups do not accept the vaccine though it is readily available. An effort should be made to identify the barriers and to show how they can be eliminated. The information gathered should be pooled and energetic programs should be undertaken to determine how non-acceptance can be overcome.

The Committee endorsed further research in the field of inactivated and living virus vaccines. Examples of such research are: to continue efforts to develop more satisfactory strains for vaccine; to provide and evaluate a more potent inactivated vaccine to permit adequate immunization with fewer injections.

For a future program the Committee recommended that the Public Health Service continue to make every effort to encourage the early production and ready availability of an oral polio vaccine. They designated certain priorities for the first available supplies of oral vaccine and specified that the Public Health Service should maintain reserve supplies of oral poliovirus vaccine for use in epidemics. The dosage

schedules of such vaccine will be recommended when oral vaccine becomes available.

It should be borne in mind that there is no oral poliovirus vaccine available now and that efforts to control polio must be concentrated on the use of Salk vaccine which can be readily obtained to immunize the millions still unprotected. The President of the United States, the Surgeon General of the Public Health Service, and his Advisory Committee on Poliomyelitis Control, have issued statements calling for wider use of the presently available Salk vaccine.

*Organizations represented:

American Academy of General Practice
American Academy of Pediatrics
American College of Preventive Medicine
American Federation of Labor-Congress of Industrial Organizations
American Hospital Association
American Medical Association
American Nurses Association, Inc.
American Osteopathic Association
American Pharmaceutical Association
American Public Health Association
Association of State and Territorial Health Officers
Association of State and Territorial Public Health Laboratory Directors
Children's Bureau
Conference of State and Territorial Directors of Public Health Education
Conference of State and Territorial Epidemiologists
Council of State Governments
Department of Defense
General Federation of Women's Clubs
National Association of Retail Druggists
National Advisory Health Council
National Congress of Colored Parents-Teachers
National Congress of Parents and Teachers
National Foundation
National Health Council
National Medical Association, Inc.
Sister Elizabeth Kenny Foundation
U. S. Conference of City Health Officers

MONTHLY REPORT OF BUREAU OF COMMUNICABLE DISEASE CONTROL

	Mar. 1961	Mar. 1960	Jan.-Mar. 1961	Jan.-Mar. 1960
Brucellosis	0	3	5	5
Diphtheria	0	1	6	5
Hepatitis (Infectious)	115	127	294	292
Measles	1492	770	3866	2497
Meningococcal Infections	5	6	18	18
Aspetic Meningitis	1	3	3	9
Poliomyelitis	0	0	0	0
Rabies (In Animals)	44	23	81	70
Rocky Mt. Spotted Fever	0	0	2	0
Streptococcal Infections	857	725	2150	2083
Tularemia	0	0	3	20
Typhoid	0	0	0	3

Current Currents

KERR-MILLS PROGRESS REPORT: As this issue goes to press, it appears that efforts to implement a program of medical assistance for the aged (Kerr-Mills) in Virginia have been stymied—at least temporarily. The Department of Health, Education and Welfare has turned down a plan drafted by the Virginia Department of Welfare, and cites two reasons for its action. They are (1) the provision of Virginia law permitting access by the general public to records of disbursement of funds by the local departments of public welfare, and (2) the provision in the federal act prohibiting recovery during the lifetime of a recipient or his spouse of any medical assistance granted as opposed to a provision in the Virginia statutes requiring repayment in the event of the sale of real estate owned by the recipient.

Officials of the Department of Welfare will meet again soon with the Society's Liaison Committee to discuss the situation. The Kerr-Mills approach is generally regarded as the best possible answer to those who support the King bill (H. R. 4222).

COHEN CONFIRMED: The Senate, on April 6, confirmed the nomination of Wilbur J. Cohen for Assistant Secretary of HEW. The nomination was approved by voice vote over the vigorous protest of Senator Carl P. Curtis (R., Neb.). The Senator, in opposing the nomination, stated "I do not believe in a cradle to grave program wherein millions of our middle class people might be paying more in social security taxes than they will be paying for all other purposes of government." He further declared that if all the social programs that Cohen had advocated, past and present, came to pass, a person with $9,000 income would pay social security payroll taxes greater than his Federal income taxes.

MEDICARE RUNDOWN: The Washington Report on the Medical Sciences cites some interesting facts and figures on Medicare. Between the inception of the program in December, 1956, and December 31, 1960, the Government has paid out $270 million for medical care of service dependents by civilian doctors in civilian hospitals. An additional $15 million in billings are reported yet to come. Over 1.1 million patients have been accommodated—625,000 maternity and 95,000 gynecological cases, 230,000 surgical admissions, and more than 205,000 medical cases. Medicare patients, or their sponsors, have paid almost $30 million out of their own pockets. Thus, Medicare's cost is borne 90.7 per cent by the Treasury and 9.3 per cent by the patient.

Hospitals are reported to have received $133 million, physicians $130 million and the remainder, about 2.2 per cent, went for administrative costs.

SOCIAL SECURITY FOR PHYSICIANS: As expected, another bill (H.R. 2382) has been introduced providing for the compulsory coverage of physicians under Title II of the Social Security Act. The bill would affect taxable years beginning in 1960. It has been referred to the House Ways and Means Committee.

PROGRAM SUGGESTION: The activities and accomplishments of AMA have burgeoned in so many directions since its founding 114 years ago that a periodic review of its program of service to the public and profession provides excellent subject matter for component society meetings. Numbered among its activities are a continuing campaign for higher standards of medical education, a relentless fight against quacks and charlatans, establishment of the AMA Journal for the advancement of medical science, a continuing battle against government encroachment in medicine and its ever expanding role in improving health care for all people. Special programs serve to bring all members up to date.

TWO FINE PAMPHLETS: Every waiting room should contain copies of two excellent pamphlets now available through The Medical Society of Virginia. One is entitled "Socialized Medicine and You" and the other "Medical Aid for the Aged". The first is in the form of an open letter to patients and the latter compares the Kerr-Mills approach with the Social Security tax approach.

SEAT BELTS: A ten-year study reveals a 60% reduction in injuries and deaths in those accidents involving passengers using safety belts in their automobiles. It is also interesting to note that, contrary to popular belief, most auto accidents do not occur during long trips. Statistics indicate that 80% of all auto accidents occur within ten miles of home.

PHYSICIAN DRAFT: The Defense Department, the first time in four years, has called for a draft of doctors. It wants 250 physicians to serve with the Air Force.

PHYSICIANS IN THE GENERAL ASSEMBLY: Judging from recent articles in the AMA News, Virginia has more physicians serving in its General Assembly than any other State. Two physicians serve in the Senate and four in the House. The profession has every reason to be proud of these men who place a high and proper value on public service.

Miscellaneous . . . .

Special Committee of Lynchburg Academy of Medicine

This committee was appointed by the president of the Lynchburg Academy of Medicine to study and report back to the Academy on a long-range plan to improve relationships with the public in reference to the practice of medicine in Lynchburg. This committee was an outgrowth of two specific problems. First, the increasing national publicity which is uncomplimentary to the medical profession, and second, the pending legislation in Congress seeking to extend the social security program to cover medical care of the aged.

This committee agrees that the national publicity is uncomplimentary to the medical profession. It is not prepared to argue whether or not all of this criticism is deserved. It also agrees that extension of social security to cover medical care of all persons over the age of 65 is undesirable, not only for the profession, but for the American public in general. It cannot say whether or not such a program, or indeed, complete socialization of medicine, is inevitable. The committee, however, believes that certain problems in reference to the Lynchburg Academy of Medicine should be discussed.

1. The Lynchburg Academy of Medicine, along with the profession in general, has paid too little attention to the social and economic side of medical practice. They have, we are certain, concerned themselves primarily with the practice of good scientific medicine, thinking first of the standards of medical care necessary for the welfare of the patients. For this they should be commended, but in so doing, they have ignored certain forces which, for years, have been at work, gradually bringing about the situation in which we now find ourselves. They have not, as a group educated themselves to the social problems which exist, have not aroused themselves to the point of frank and open discussion, and have not taken steps to offer constructive criticism to counteract the adverse criticism of the profession.

2. The medical profession in Lynchburg *is* receiving criticism. This criticism may be indolent at the present, but none the less it is there and is rapidly growing. We, as physicians, must bear our share of the blame for this growing criticism. We cannot ignore the fact that there are among us colleagues whose professional relations with his patients are not as closely attended to as they should be. We may well talk about public relations beginning with the individual physician, but this will avail us nothing unless we are certain that the individual physician's moral approach to the practice of medicine fulfills the requirements of good public relations. We are certain that the members of this society will agree that we all are aware of instances of complaint by the public against our colleagues which is, at least in part, justified. The members of the profession who cause such comment are a small segment of the total group, but such action forms a basis of criticism of the whole profession and such criticism appears to be evident among all classes of people.

3. The Lynchburg Academy of Medicine has no program of public relations. We have, as has medicine in general, taken a completely negative approach. We have been content to wait until criticism or political pressure causes us irritation and then to make an answer, usually only saying that "it isn't so". Medicine in Lynchburg has been in the public eye only in the form of the printed and televised publicity about which we now concern ourselves, with nothing, even in a subtle form to suggest to the public that we are doing some good to this community. The time has passed when we can assure ourselves that the good practice of medicine is all that is necessary to maintain

our integrity. There must be some public evidence of our good practice and our good intentions.

4. The profession as a whole, is unapproachable to the public in solving their non-medical problems. There is no question that patients who have a complaint against a physician talk either to another physician or to their neighbors, exercising their human nature in not talking to the man against whom they have a complaint. Not receiving satisfaction, they frequently take their complaint to the public by way of the local press, such correspondence reflecting upon the group as a whole. It is a fact that the editor of the local newspaper was, until recently, unaware of the existence of the Grievance Committee of the Academy.

5. Members of the profession are bringing criticism upon the entire group by actions of which they are unaware. By being thoughtless in explaining fees, consultations, etc. to the patient we have created areas of uncertainty in the minds of the public.

6. A problem of the aged, and the care of indigent patients of all age groups, does exist on the local scene. While this problem is not as great as in other areas it is large enough that we must concern ourselves, and offer at the local level, a constructive program for medical care for all people of limited means, and let the public know that such a program exists.

7. The problem posed by the threat of the extension of social security is a serious one, but it is not an isolated problem. It is only a part of the total program of socialization gradually being extended to encompass the entire country. While our problem, at the present, relates itself to the social security coverage of the care of the aged, other groups, notably dentists, lawyers, farmers, retail merchants, engineers, and other independent and professional men, are confronted with similar programs of the federal government designed to encrouch upon the freedom of their business operations. We have already said that we cannot argue whether or not such a total socialization is inevitable. We do believe, however, that it is not for us to completely throw up our hands and accept whatever may come. If our American way of life, based on individual freedom and private initiative is wrong, and this country is ready for total socialization, then we should be willing to say so. If on the other hand this group of men who belong to an intelligent and educated profession believe that the principles of individual freedom, free enterprise, and the rewards of individual work and initiative, are basic to our way of life, then we should also be willing to stand up and fight for what we believe.

The points that we have outlined above, it seems to us, form the basis of our entire problem. It may be that socialization is inevitable, but we believe that if it is we, in Lynchburg should be able to say, when it comes, that we are going into it with dignity and that our patients are not of the mind that we are being forced into it because of the moral degradation and monetary ambitions of our local physicians.

We, therefore, recommend the following program:

1. We recommend that the Academy of Medicine pay increased attention to the business of medicine. We specifically recommend that the action of the Board of Trustees be presented to the Academy for complete discussion and that, except as outlined below, the business session of the Academy take precedent over all other activities.

   We further recommend that four meetings each year be devoted to a scientific session, with outstanding speakers of national reputation, and that adequate press coverage of such functions be arranged. We further recommend, in agreement with the preceding point, that these be the only meetings at which guest speakers are invited, reserving all other meetings for the carrying out of business.

2. The committee recommends that the Grievance Committee of the Lynchburg Academy of Medicine be conservatively publicized, making the public aware of the proper place to carry their complaints. We also believe that the members of the Academy should be encouraged to refer all complaints which come to their attention to the Grievance Committee.

   In this connection, we strongly recommend that the Academy recognize its responsibility to the community, as well as to its own members, by taking a firm stand in exercising discipline over its members in instances of known breach of patient-physician relationship.

3. In order to carry out the point above, we recommend that the public be made aware of the accessibility of the profession by the establishment of a telephone number and post office address and that the same be published in the telephone and city directories of the City of Lynchburg.

4. We recommend that the following committees be instructed to carry out the program as outlined:

   A. That the public relations committee develop a program of internal public relations, making use of a monthly bulletin to all members, or such other means as they may devise, to advise the members of the Academy of frequent points of criticism raised by the public and to suggest ways of improving the personal relations of the individual doctor and his patients.

   B. That the public relations committee establish a close liaison with the auxiliary of the Lynchburg Academy of Medicine suggesting ways in which physicians' wives, individually, and by that organization, may help in the field of public relations.

   C. That the public relations committee develop a planned program of press coverage relating to professional activities of the medical profession, especially directed toward making the public aware of the activities of the group and medical profession as a whole.

   D. That the public relations committee plan a series of press releases relating to the activities of the medical profession in the care of indigent patients. Specifically, we suggest that a yearly release be presented to the press on the activities of physicians who work in the free clinics of the Health Department. We also suggest that hospital activities such as teaching, committee assignments, in-patient indigent care, emergency room coverage, the work of the tissue and audit committee, etc. be covered in such releases.

   E. We recommend that the committees on Blue Cross, The Welfare Planning Committee of the United Fund, The Civil Defense Committee, The Public Health Committee and The Ambulance Committee prepare reports on the activities of the Academy of Medicine in these fields, and submit them to the Public Relations Committee, for release at intervals in connection with the recommendation made above.

   F. We further recommend that the committee to the Community Council, which is now defunct, be revived, and appointed as a Public Welfare Committee of the United Fund. We suggest that this committee make a study of the incident of indigent needs in this community in all age groups and pub-

licize such findings. We also suggest that they should publicize the availability of special means in this community of caring for medically indigent patients. Specifically, the Drise Fund of the Virginia Baptist Hospital, the church cots and other funds of Memorial Hospital, the indigent funds available under the welfare department, and indigent funds available under United Fund should be mentioned.

We suggest that all of the above committees and reports be submitted to the Public Relations Committee, which, meeting together should plan a long-term program of releases on these various subjects. Specifically, we suggest that a regular program of weekly or bi-weekly reports be made through the press.

5. We recommend that the medical profession be advised to encourage patients to discuss financial conditions with their physicians and that arrangements be made, either through individual physicians or through the Society, for the reduction of physicians' fees as indicated, not only in the older age group, but in all fields of indigent medicine.

6. We recommend that the Public Relations Committee, working through all other committees of the Society, present to the public truthfully, and without equivocation, the position of the medical profession in regard to socialized medicine and the social security program in general.

7. We recommend that the legislative committee of the Lynchburg Academy of Medicine attempt to meet with similar committees of the Retail Merchants Association, the Lynchburg Association of Insurance Underwriters, the Lynchburg Pharmaceutical Association, the Lynchburg Bar Association, the Lynchburg Dental Association, and any other group of independent professional men, who have an interest in the social security program, and, if possible, to establish an overall legislative committee representing all these groups. We further recommend that this committee advise all members of the Academy of any pending legislation in reference to socialization of medicine, minimum wage, or any other social trends which infringe upon the private right of individual initiative, and that the members of the Academy be notified, in writing, by the committee, of such legislation and its implications, so that members of the Academy, may, at their discretion, contact their congressmen in reference to their feelings.

8. Finally, we recommend that the Lynchburg Academy of Medicine, at their meeting just prior to the meeting of the state medical society each year consider all action which is contemplated by the Society (the local Society is notified prior to the meeting) so that the delegates of the Lynchburg Academy of Medicine to The Medical Society of Virginia House of Delegates may be instructed in their vote and may be instructed to bring upon the floor of the House of Delegates any business which the Academy of Medicine feels is pertinent to the welfare of the medical profession. Further the elected delegates from the Lynchburg Academy of Medicine should be thoroughly familiar with such business as is on the published agenda of The Medical Society of Virginia and present it to the Academy prior to the state meeting in order that the Academy may be fully informed on the implications of any program to be presented.

The committee recognizes that this is a long and ambitious program that we have suggested. We believe, however, that these many problems can best be solved by beginning at our own level and, that if successful, a general house cleaning program at the grass roots throughout the country, can be established. We therefore recommend:

1. That the above program be adopted by the Lynchburg Academy of Medicine.
2. That the president of the Lynchburg Academy of Medicine be charged with the duty of implementing this program.
3. That the president of the Lynchburg Academy of Medicine be requested to report monthly to the Academy on the progress of this program.
4. That if this program is adopted copies of such be sent to each component society of The Medical Society of Virginia, to each State Medical Society of the United States, and to each officer and trustee of The Medical Society of Virginia and the American Medical Association.

Respectfully submitted
C. E. Keefer, M.D., *Chairman*
C. W. Whitmore, M.D.
W. H. Barney, M.D.

This Report was read at a meeting of the Academy on March 7th and was unanimously approved.

Palm Reading and Congenital Heart Disease

The pattern of lines on the palm of the hand may offer a clue to the presence of congenital heart disease, according to an article in the April 8th Journal of the American Medical Association.

A correlation between the location of some lines and congenital heart defects was reported by Drs. Alfred R. Hale, John H. Phillips, and George E. Burch, Tulane University School of Medicine, New Orleans.

The researchers drew their conclusion from a comparison of the palm prints of 157 patients suffering congenital ailments and 143 patients who had acquired forms of heart disease.

The intricate patterns on the palm appear between the fourth and sixth month following conception, the physicians explained. Defects in development of the unborn child during this time many influence the lines on the palm and thus reflect developmental disturbances operative during this period.

Except for growth, these configurations once established never change throughout a person's life.

The authors pointed out that a relationship between particular palm line characteristics and specific types of congenital heart defects "awaits the collection of a large series of proved cases."

Book Announcements . . . .

Books received for review are promptly acknowledged in this column. In some cases, reviews will be published shortly after the acknowledgment of receipt. However, we assume no obligation in return for the courtesy of those sending us same.

Surgical Diseases of the Chest. Edited by Brian Blades, M.D., Professor of Surgery, The George Washington University School of Medicine, Washington, D. C.; Chief Surgeon, The George Washington University Hospital. The C. V. Mosby Company, St. Louis. 1961. 580 pages. Illustrated. Price $22.00.

Stroke. A Study of Recovery. By DOUGLAS RITCHIE. Doubleday & Company, Inc., Garden City, New York. 1961. 192 pages. Price $3.50.

The Human Frame. By GIOVANNA LAWFORD. With a foreword by Dr. Margaret Mead. Doubleday & Company, Inc., Garden City, New York. 1961. 108 pages. Illustrated. Price $0.95.

Resuscitation of the Newborn Infant. Principles and Practice. Edited by Harold Abramson, M.D., Professor of Clinical Pediatrics, New York Medical College; Director of Maternal and Child Health Program, New York Medical College-Metropolitan Medical Center; etc. The C. V. Mosby Company, St. Louis. 1960. 274 pages. Illustrated. Price $10.00.

Blood Diseases of Infancy and Childhood. By CARL H. SMITH, M.A., M.D., Professor of Clinical Pediatrics, Cornell University Medical College, New York; Attending Pediatrician, The New York Hospital; Consulting Pediatrician, Beekman-Downtown Hospital; etc. The C. V. Mosby Company, St. Louis. 1960. 572 pages. Illustrated. Price $17.00.

Light Coagulation. By GERD MEYER-SCHWICKERATH, M.D., Chief, Municipal Eye Clinic, Essen Professor of Ophthalmology, University of Bonn. Translated by Stephen M. Drance, M.B., F.R.C.S. (Eng.), Associate Professor of Ophthalmology, University of Saskatchewan, Canada. The C. V. Mosby Company, St. Louis. 1960. 114 pages. With 55 figures, including 7 in color. Price $9.50.

Respiration. Physiologic Principles and their Clinical Applications. By P. H. ROSSIER, A. A. BUHLMANN, and K. WIESINGER. Edited and translated from the German Edition by Peter C. Luchsinger, M.D., Chief of Pulmonary Physiology Research Laboratory, Mt. Alto VA Hospital, Washington, D. C. and Kenneth M. Moser, M.D., Head of Chest and Contagious Disease Branch, U. S. Naval Hospital, National Naval Medical Center, Bethesda, Md. The C. V. Mosby Company, St. Louis. 1960. 505 pages. With 95 Illustrations. Price $15.75.

Review of Medical Microbiology. By ERNEST JAWETZ, M.D., Professor of Microbiology and Lecturer in Medicine and Pediatrics, University of California School of Medicine; JOSEPH L. MELNICK, Ph.D., Professor of Virology and Epidemiology, Baylor University College of Medicine; and EDWARD A. ADELBERG, Ph.D., Associate professor of Bacteriology, University of California. Fourth Edition. Lange Medical Publications, Los Altos, California. 1960. 376 pages. Price $5.00.

Handbook of Medical Treatment. Edited by Milton J. Chatton, M.D., Sheldon Margen, M.D., and Henry Brainerd, M.D. Seventh Edition. Lange Medical Publications, Los Altos, California. 1960. 569 pages. Price $3.50.

Painless Childbirth Through Psychoprophylaxis. By I. VELVOVSKY, I. PLATONOV, V. PLOTICHER, and E. SHUGOM. Foreign Languages Publishing House, Moscow. 1960. 417 pages.

Regulation of the Inorganic Ion Content of Cells. In Honour of Prof. E. J. Conway. Ciba Foundation Study Group No. 5. Editors for the Ciba Foundation, G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P., and Cecilia M. O'Connor, B. Sc. Little, Brown and Company, Boston. 1960. 100 pages. With 16 Illustrations.

The Morning Notes of Adelbert Ames, Jr. Including a Correspondence with John Dewey. Edited and with a preface by Hadley Cantril. Rutgers University Press, New Brunswick, New Jersey. 1960. ix-236 pages. Price $6.00.

Beloved Professor. Life and Times of William Dodge Frost. By RUSSELL E. FROST. Vantage Press, New York. 1960. 350 pages. Price $3.75.

Medical History-Taking. By IAN STEVENSON, M.D., Professor of Psychiatry and Chairman, Department of Neurology and Psychiatry, University of Virginia School of Medicine. Paul B. Hoeber, Inc., New York. 1960. viii-273 pages. Price $6.50.

Human Pituitary Hormones. Ciba Foundation Colloquia on Endocrinology. Volume 13. In Honour of Professor B. A. Houssay, For. Mem. R. S. Editors for the Ciba Foundation G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P., and Cecilia M. O'Connor, B. Sc. Little, Brown and Company, Boston. xii-336 pages Price $9.50.

The Question of Fertility. By GEORGES VALENSIN, M.D. Translated from the French by Leah Suchodolski. Doubleday & Company, Inc., Garden City, New York. 1960. 296 pages. Price $4.50.

Haemopoiesis. Cell Production and Its Regulation. Ciba Foundation Symposium. Editors for the Ciba Foundation G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P., and Maeve O'Connor, B.A. Little, Brown and Company, Boston. 1960. xii-490 pages. Illustrated. Price $11.00.

Adventure to Motherhood. The Picture-Story of Pregnancy and Childbirth. By J. ALLAN OFFEN, M.D., Assistant Professor of Obstetrics and Gynecology, University of Miami School of Medicine; Attending Obstetrician and Gynecologist, Jackson Memorial Hospital. Audio Visual Education Company of America, Inc., Miami, Fla. 1960. Taplinger Publishing Company, Inc., New York, N. Y. Price $2.95.

Sight. A Handbook for Laymen. By ROY O. SCHOLZ, M.D., Ophthalmologist, The Johns Hopkins Hospital. Doubleday & Company, Inc., Garden City, N. Y. 1960. 166 pages. Price $3.50.

Synopsis of Pathologyy. By W. A. D. ANDERSON, M.A., M.D., F.A.C.P., F.C.A.P., Professor of Pathology, University of Miami School of Medicine; Director of Pathology Laboratories, Jackson Memorial Hospital, Fifth Edition. The C. V. Mosby Company, St. Louis. 1960. 876 pages. With 414 Text Illustrations and 4 Color Plates. Price $9.25.

The Medical Society of Virginia
Membership Roster

April 1, 1961

This roster is published as a service to the membership and your editors hope you will find it a handy and ready reference.

Although the list has been checked carefully, the State Office would appreciate being advised of any omissions or errors. Addresses shown are those used by the State Office for mailing purposes.

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1831 Wilson Blvd.
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220 E. Church
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Maccubbin, H. Pierce
110 Lee St.
Winchester, Va.
Macdonald, Claude D. J.
114 Franklin Bldg.
Norfolk 10, Va.
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220 Rosser Ave.
Waynesboro, Va.
Maciulla, Louis J.
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138 Church St.
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MacPhail, Joseph C.
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30 Franklin St.
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Miller, Harold W.
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Woodstock, Va.
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4 S. Stuart St.
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Woman's Auxiliary . . . .

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Membership

"To preserve and enhance the Heritage of American Medicine" is our national theme this year; it is also a privilege designed especially for our organization.

We are a group of physicians' wives united in an organization whose sole purpose is to carry out the projects approved by the American Medical Association. To carry out these projects, we need to consolidate our strength through organization. This we may do only by maintaining a working structure for more effective participation in legislative matters and service to our communities.

The Woman's Auxiliary to the A.M.A. is now over 80,000 strong. This is a tremendous number of women working together with their husbands to help and advance the medical profession. But even this number is small by comparison to the number of women who could be a part of our auxiliary.

Women now outnumber men in this country; we now own 80% of the wealth of the country; we are recognized as a formidable force to be reckoned with. It is, therefore, the job and duty of all women to be better informed in order to be of more use to their families and communities. This is particularly true of physicians' wives, who as leaders act as an educational force in their communities.

In belonging to our medical auxiliary, we have the chance to learn how to be of more help to our husbands. It is difficult for us, who work with the medical profession, to understand the physicians' wives who do not feel as we do. One of our primary concerns must therefore be to interest these women in working with us. This lack of interest of some wives, I believe, is due to the fact that they are uninformed as to the work the Auxiliary does. This then becomes the work of every member, to inform and explain to these wives the why, what and how the Auxiliaries function.

Do these women know, as an example, that in 1959 the Woman's Auxiliary of the A.M.A. contributed 3,108,314 hours of volunteer and philanthropic service to the communities?

Do they know—that in just eight years, we have raised $1,033,725 for use as loans and scholarships for careers in medicine?

Do they know—that we have organized almost 2,000 Future Nurses Clubs?

Do they know—that Virginia has 22 auxiliaries with 1182 members and at present a new auxiliary being formed at Virginia Beach?

These are the facts that I believe, if known, would interest any physician's wife and in turn make her eager to join and work with others on the projects approved by the medical profession. It is up to you to inform them. We are proud of our achievements. Let us sell the fine work of our auxiliaries.

There are three essentials for a high level membership:

1—Harmony among its members
2—Absorbing programs
3—Understanding of the purposes and policies of the Auxiliary and the A.M.A.

These three principals we all understand and recognize for their value. The question

arises as to how to best put them into practice.

These are suggested ways for enlarging your membership:

1. Get up-to-date list of names and addresses of prospective members from medical society.
2. At specialty group meetings and state conventions interest women in your county and state auxiliaries.
3. Follow up referral notices on members of SAMA auxiliary.
4. Contact all prospective members early before other organizations claim them.
5. Remember the value of reciprocity. Persuade the doctors' wives who *prefer other organizations* to be guest speakers on your program. You will learn what holds her interest and perhaps have an equal opportunity to explain your own belief in auxiliary membership.
6. Seek the reason for the *"dropped out"* or disinterested members and devise ways to interest them in reinstatement. Evaluate your organization on the basis of what you learn and make constructive changes.
7. Encourage each individual to choose what she likes best to do in the time at her disposal.
8. Choose the part of the national program and the project which best fits your own group and community.

We have reached a "decisive decade" when physicians cannot oppose the forces threatening their heritage alone. They need assistance. The more members we enlist, the more powerful will be our support and the more wives will answer the call of courageous citizenship. A large membership will attest the unity of the medical profession. Only in this consolidation of our strength can we truly assist our husbands chosen profession to reach and hold its greatness.

Betty Grigg (Mrs. Wm. F. Jr.)

Auxiliary to the American Medical Association.

A most cordial invitation is extended all members of the auxiliaries to attend the annual convention of this Auxiliary in New York, June 26-29. Headquarters will be the Roosevelt Hotel.

Foods for survival and common sense safety precautions for aged persons around the home are two outstanding presentations slated for this meeting.

The annual tea and fashion show honoring the president, Mrs. William Mackersie, and the president-elect, Mrs. Harlan English, will be held at the U. N. Building on Monday afternoon. National past presidents will be honored at the luncheon on Tuesday, at which Dr. E. Vincent Askey, A. M. A. president, will be guest speaker.

Williamsburg-James City.

This is the newest auxiliary and their officers are: President, Mrs. Hugh Stokes; vice-presidents, Mrs. Frank Fernandez and Mrs. Howard Ashbury; recording secretary, Mrs. R. E. DeBord; corresponding secretary, Mrs. Kinwood Farley; treasurer, Mrs. George Chochany; and membership, Mrs. John Fletcher and Mrs. George Oliver.

Northampton-Accomac.

This auxiliary met on March 21st at Hungar's Church Parish House, Bridgetown. There were thirty members present.

Mrs. F. Clyde Bedsaul, State President, was guest speaker. She spoke of the need for more young people to be encouraged to enter the medical profession and health careers. She stressed the aims of the medical profession for the future.

A check for one hundred and seven dollars was given to the Medical College of Virginia medical center.

A social period and refreshments followed the business meeting.

Catherine R. Trower
(Mrs. E. Holland)

Editorial....

Resident Physicians and Blue Shield

RECENTLY BLUE SHIELD has indicated that it will no longer render fees for service by resident physicians. While most patients with Blue Cross-Blue Shield coverage do consult a private physician, in a few instances, there are patients whose income and personal assets are extremely low, and it is necessary to admit them to the hospital as clinic patients. Under such circumstances, medical care is given by a resident under the supervision of an attending physician. It should be pointed out that the resident is one whose competence is commensurate with the patient's medical problem, and, in addition, the patient is seen by an attending physician who participates in the decision for the patient's care and is immediately available during an operative procedure or serves as a member of the operating team if necessary. Thus, the patient receives excellent care and fully as much attention as if she were the direct responsibility of a private physician. Also, in this day when the number of indigent or welfare patients is diminishing, it is of utmost importance that as many patients as possible be available for residency training.

The Blue Shield Medical Surgical Contract Manual defines the Physician as a ". . . duly licensed doctor of medicine." In the same Manual, however, it excludes payment for care by surgical assistant residents, interns, residents or house physicians. While this may be a prerogative of the Medical Service Association, it does not seem entirely fair to exclude physicians in this category when they are "duly licensed doctors of medicine" in a teaching hospital setting if they are deemed competent by virtue of training and experience and have the supervision and guidance of well-qualified attending physicians. The amount of monies which might be received from this source is not great. Furthermore, these funds do not accrue to the private physician or the institution, but are used to further the educational opportunities of the resident staff.

Another factor for consideration is that the patient has paid a premium for professional medical care, and, therefore, it seems reasonable that a fee for service should be paid when this care is rendered just as his cost for hospitalization is paid by the Association.

The trend throughout the State as well as over the country is toward medical and surgical insurance for larger numbers of people. Therefore, it is quite probable that increasing numbers of patients will be cared for by resident and house physicians who will, in turn, treat them under proper supervision. This is not to say that whenever it is practically and morally possible, a patient with Blue Shield and Blue Cross coverage should be and will be the direct responsibility of a private physician. Such patients will be assigned to the clinic service only if Blue Cross fails to cover for the most part the cost of hospital care for a patient whose personal financial assets are so low that it will be virtually impossible for him to make up the difference.

The opportunity for good medical care afforded by the Association to

increasingly greater numbers of people is indeed recognized. It is sincerely hoped that some method will evolve for payment of fees for service by duly licensed physicians even though they are resident and house physicians.

WILLIAM H. MULLER, JR., M.D.

News Notes . . . .

New Members.

Since the list published in the April issue of the Monthly, the following doctors have been admitted into membership in The Medical Society of Virginia:

Raymond Atwell Adams, M.D., Richmond
Audrey Kathleen Brown, M.D., Charlottesville
Harry Silsby Brown, Jr., M.D., Vienna
Ernesto V. Castro, M.D., Falls Church
Enrico Davoli, M.D., McLean
Jose Arturo de Lamerens, M.D., Suffolk
Francesco de Paola, M.D., Vienna
John Alexander Gill, M.D., Richmond
Robert Todd Hyde, Sr., M.D., Staunton
Douglas Robert Koth, M.D., Arlington
Silvia Luik, M.D., Marion
Niall Patrick MacAllister, M.D., Richmond
George Russell Prout, Jr., M.D., Richmond
Constantine Nicholas Psimas, M.D., Portsmouth
Antonio Rodriguez-Antunez, M.D., Charlottesville
Rafael Roman, M.D., Wise
Robert Alan Senescu, M.D., Richmond
John Herndon Vansant, M.D., Charlottesville

Dr. Rea Has Fish Story.

Dr. Montie L. Rea, Charlottesville, recently hauled in a 43-pound kingfish, measuring four feet, six inches. He caught the fish during a Pompano Beach, Florida, fishing tournament. Dr. Rea is only 84 years young.

Memorial Tablet to Dr. Blanton.

At the annual meeting of the History of Medicine Section of the Richmond Academy of Medicine, a memorial tablet to the late Dr. Wyndham B. Blanton was presented to the Academy by the section. Dr. Blanton was president of the Academy and also chairman of the section on the history of medicine.

The Virginia Board of Medical Examiners

Will hold its regular meeting at Hotel Richmond, Richmond, at 1:00 P.M., on June 5th. The State Board examinations this year, because of the larger number of applicants, will be given in two sessions. One session will begin on May 31st and extend through four days. The other session will begin on June 6th and extend through four days. Each session will, as in all previous instances, include both Part I (Basic Sciences) and Part II of the examinations. These examinations will be given at the Hotel Richmond. The Reciprocity Committee of the Board will meet on June 5th at the Hotel.

Wise County Medical Society.

Dr. Pierce Nelson, Norton, has been elected president of this Society. Other officers are: Drs. Donald Shelley, H. H. Howze and C. I. Fuller, vice-presidents, all of Norton; Dr. C. E. Swecker, Wise, secretary-treasurer.

New Honor for Dr. Welburn.

Dr. W. C. Welburn, Arlington, has been named the first honorary chief of staff of the Arlington Hospital. He is eighty-six years old and still in practice and this honor is just another one to be added to a long list.

Virginia Pediatric Society.

Dr. John T. Walke, Roanoke, has been elected president of this Society, with Dr. Gayle G. Arnold, Richmond, as vice-president, and Dr. C. C. Powel, Harrisonburg, secretary-treasurer.

Dr. John Wyatt Davis, Jr.,

Lynchburg, Chairman of the Public Relations Committee of The Medical Society of Virginia, attended the National Health Advisory Committee meeting of the United States Junior Chamber of Commerce at Jaycee Headquarters in Tulsa, Oklahoma, February 27th. He served as a representative of the American Medical Association at this meeting.

The committee discussed many phases of safety and health and decided on nine items for the 1961-2 Health Program. They are: Accidental Poisoning; Alcoholism; Care of the Aged; Family Health Maintenance; Fluoridation; Health Careers; Immunization; Rehabilitation of the Physically Handicapped; and Volunteer Services in Health Facilities.

American Medical Association.

The first Multiple Research Forum will be one of the main features of the 110th annual meeting of this Association to be held in New York City, June 25-30. The Forum—embracing 15 branches of medicine—will include reviews of past research, brief reports on new research, and discussions of future trends in research.

The annual meeting will open on the 26th with a general scientific meeting presented jointly by the Section on Diseases of the Chest and the American College of Chest Physicians. The program will include two symposiums on heart disease.

Special conferences on nutrition and diabetes will be held in conjunction with the scientific exhibit in the Coliseum. Diet Conferences, sponsored by the Council on Foods and Nutrition, will be held Tuesday through Thursday.

Cardiovascular Disease—Recent Advances will be the topic of another discussion and a program on Renal and Adrenal Hypertension will be presented by the combined sections of General Surgery, Internal Medicine, Pathology and Physiology, Urology and General Practice.

More than 2,000 physicians will take part in the scientific program and teaching mediums will include lectures, symposiums, panel discussion, movies, and closed-circuit television. More than 300 physicians will deliver lectures before 20 different section meetings. There will be 827 technical exhibits and more than 350 scientific exhibits.

All specialties will be covered at this annual meeting and there will, of course, be plenty of time for outside activities and sight-seeing. The annual golf tournament will be held at the Winged Foot Golf Club, Mamaroneck, New York, on the 26th. Additional information on the tournament may be obtained from Dr. William G. McVay, P. O. Box 7007, Kansas City 13, Missouri.

Dr. Paul Camp

Has been elected president of the Phi Beta Kappa Association of Richmond. The election took place at the Association's annual meeting in March.

Dr. George Cooper, Jr.,

Charlottesville, has been elected Chairman of the Councilors of the American College of Radiology.

Dr. Thomas L. Gorsuch

Has been named president of the Waynesboro Rotary Club for 1961-2. He is also currently serving as president of the Waynesboro-East Augusta Chamber of Commerce.

Dr. John W. Emerick, Jr.,

Has been appointed councilman of Ward No. 1 of Berryville. The appointment was made as a special meeting of the Town Council.

New Manager at McGuire's VA Hospital.

Dr. Robert J. Scott has been appointed manager of McGuire VA Hospital, Richmond, succeeding Dr. James E. Cottrell, who is retiring. Dr. Scott is at present manager of the VA Hospital at Fort Wayne, Indiana. He is a native of Onancock and a graduate of the Medical College of Virginia.

To Honor Physician.

The new emergency room in the proposed addition to the Memorial Hospital, Winchester, will honor the late Dr. Benjamin Blanton Dutton, most beloved physician of Winchester. Dr. Dutton practiced there for forty years until his death in 1957. The $50,000 suite of rooms for emergency cases has been given by the Monford D. and Vesta M. Custer Foundation of Coshocton, Ohio. Dr. M. D. Custer, Jr., is one of the trustees of the foundation.

Accepting Papers.

The section of Ophthalmology and Otolaryngology, of the Southern Medical Association announces that they are now accepting papers by physicians of either specialty living in the area of the Association for consideration for presentation at the annual meeting to be held in Dallas, November 6-9, 1961.

The paper or an abstract may be sent directly to the secretary, Dr. Albert C. Esposito, Suite 1212, First Huntington National Bank Building, Huntington, West Virginia, as soon as possible.

Obituaries . . . .

Dr. Harry Alden Wall,

Norfolk, died March 29th, at the age of sixty-three. He was a native of Norfolk and a graduate of the Medical College of Virginia, class of 1921. Dr. Wall served on the staffs of Norfolk General, DePaul and Leigh Memorial Hospitals. He had been a member of The Medical Society of Virginia for thirty-eight years.

His wife and a daughter survive him.

Dr. Vincent Edward Lascara,

Neuro-psychiatrist of Hampton, died April 3rd. He was fifty-six years of age and a graduate of the Medical College of Virginia in 1934. Dr. Lascara was a member of the staff of Kecoughtan Veterans Administration and Dixie Hospital in Hampton and the Mary Immaculate and Riverside Hospitals in Newport News. He practiced in Norfolk until 1941 when he served in the Army. After his release from the Army, he worked with the Virginia Mental Hygiene Commission and served on the neuro-psychiatric staff at the Medical College of Virginia. Dr. Lascara then served as clinical director and assistant superintendent of Dix Hill Hospital in Raleigh, North Carolina. He had been a member of The Medical Society of Virginia for twenty-two years.

His wife, a brother and a sister survive him.

Dr. Wade Hampton Saunders,

Roanoke, died March 1st. He was fifty-four years of age and a graduate of the Medical College of Virginia in 1932. Dr. Saunders practiced for several years at Fincastle before locating in Roanoke. He served as a Major in the Army Medical Corps during World War II. Dr. Saunders was a Mason, a Shriner, and a member of Scottish Rite. He had been a member of The Medical Society of Virginia since 1934.

His wife and a son survive him.

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Frank M. Blanton, M.D.
John W. Powell, M.D.

Obstetrics and Gynecology:
Wm. Durwood Suggs, M.D.
Spotswood Robins, M.D.
David C. Forrest, M.D.
Joseph C. Parker, M.D.

Orthopedics:
Beverley B. Clary, M.D.
James B. Dalton, Jr., M.D.

Pediatrics:
Charles P. Mangum, M.D.
Edward G. Davis, Jr., M.D.

Ophthalmology, Otolaryngology:
W. L. Mason, M.D.
J. Warren Montague, M.D.

Anesthesiology:
William B. Moncure, M.D.
Heth Owen, Jr., M.D.

Surgery:
A. Stephens Graham, M.D.
Charles R. Robins, Jr., M.D.
Carrington Williams, M.D.
Richard A. Michaux, M.D.
Carrington Williams, Jr., M.D.
Armistead M. Williams, M.D.

Urological Surgery:
Frank Pole, M.D.
J. Edward Hill, M.D.

Oral Surgery:
Guy R. Harrison, D.D.S.

Plastic Surgery:
Hunter S. Jackson, M.D.

Roentgenology and Radiology:
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L. O. Snead, M.D.
Hunter B. Frischkorn, Jr., M.D.
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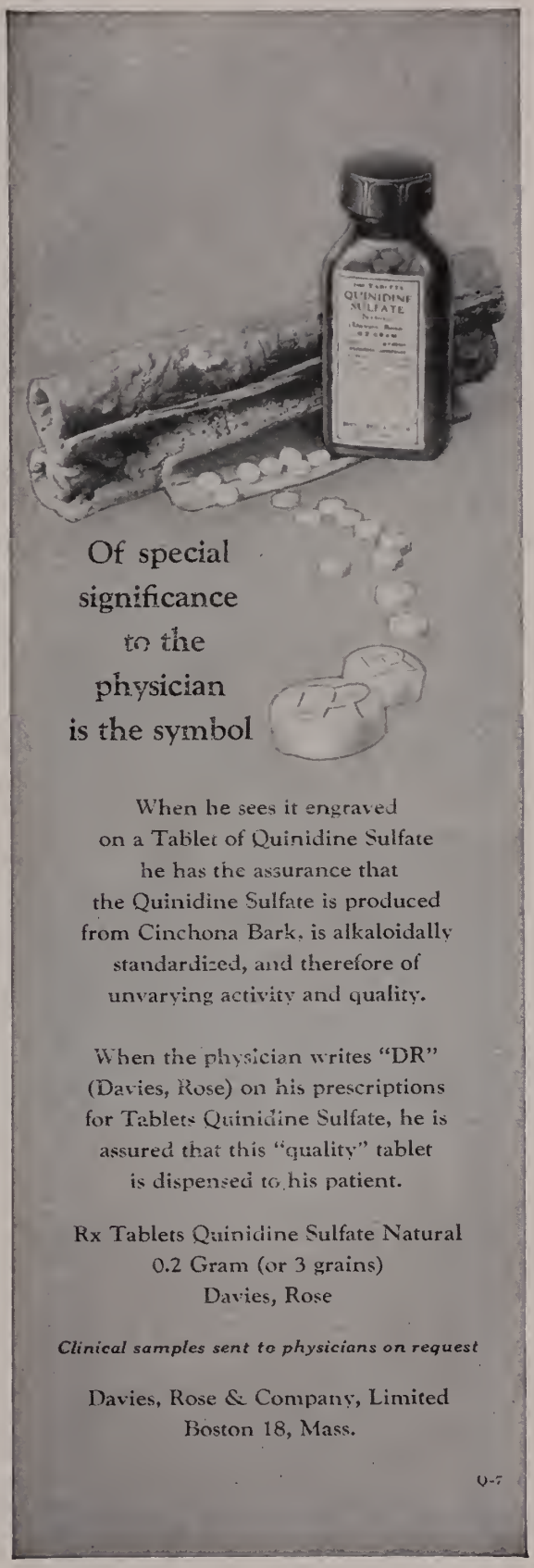

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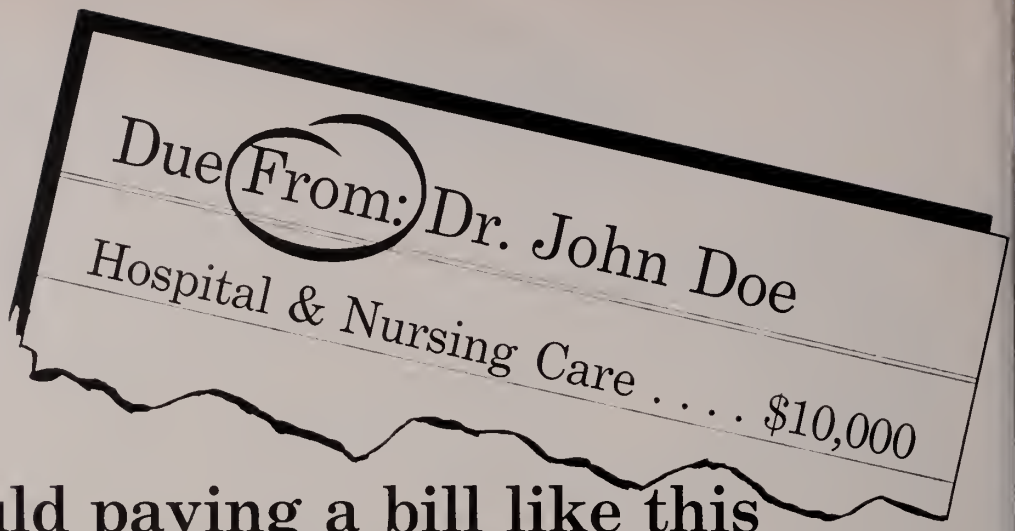

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• And what about additional bills for your continuing Office Expenses — if YOU had been the patient?

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UNDERWRITTEN BY AMERICAN CASUALTY CO. READING, PA.

DAVID A. DYER, Administrator

Medical Arts Building **Roanoke, Virginia**

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PRECAUTIONS: As with many other antibiotics, DECLOMYCIN may occasionally give rise to glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis or dermatitis. A photodynamic reaction to sunlight has been observed in a few patients on DECLOMYCIN. Although reversible by discontinuing therapy, patients should avoid exposure to intense sunlight. If adverse reaction or idiosyncrasy occurs discontinue medication. Overgrowth of nonsusceptible organisms is a possibility with DECLOMYCIN, as with other antibiotics. The patient should be kept under observation.

Request complete information on indications, dosage, precautions and contraindications from your Lederle representative, or write to Medical Advisory Department.

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A REALISTIC AID TO PROPER WEIGHT MAINTENANCE

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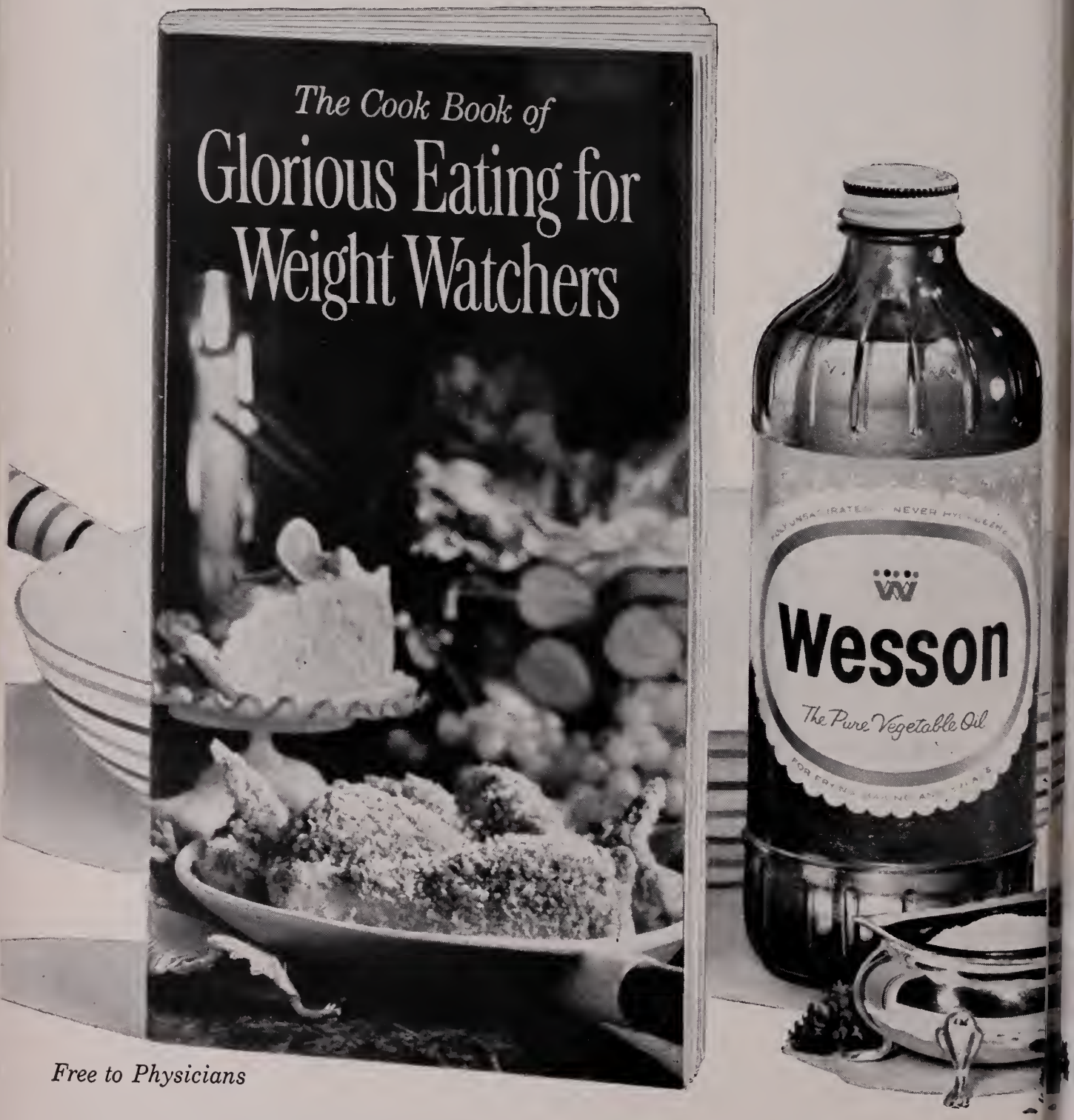


Free to Physicians

Menus fulfill the recommended dietary allowances of the Food & Nutrition Board of the National Research Council.

to Prevent Overweight Through Better Eating Habits

Recipes and Menus with Satiety and Appetite Appeal in Mind

The Cook Book of Glorious Eating for Weight Watchers fills the long-felt need for a weight control plan that is workable for everybody in the family. Realistic regimens are built around good, natural, readily-available foods enhanced by delicious methods of preparation. In place of "fad diets" or tasteless formulas, it provides for truly appetizing meals. It teaches and encourages the development of the healthful eating habits that can prevent overweight, America's #1 Health Problem. This full-color cook book contains 100 pages—248 delicious recipes each with calorie counts. Complete menus are here at 3 calorie levels—1200, 1800, 2600. Calorie levels are related to *best* weights by sex, age, size and extent of activity.

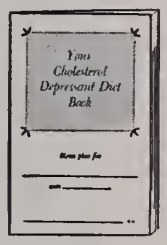
Many diets fail because they are crash programs only temporary in effect. Other diets are unbearable because they are monotonous and tasteless.

The Wesson way is not a crash program. It offers calorie controlled menus with appetite appeal, variety and satiety in mind. They fulfill the recommended dietary allowances of the Food & Nutrition Board of the National Research Council.

All menus provide the proper amount of protein, carbohydrates, fat and the other essential nutrients. The principles of good nutrition are included to help the homemaker plan her own properly balanced, calorie controlled menus. With simple subtractions or additions to the same basic menu, each family member can be served delicious satisfying menus according to his individual needs.

Not a reducing manual. It should be explained that "The Cook Book of Glorious Eating for Weight Watchers" is a guide to the *prevention of obesity.* Its publication marks the first time that a food manufacturer like Wesson has taken so important a step to help combat this serious public health problem.

Copies for physicians. "The Cook Book of Glorious Eating for Weight Watchers" is being offered to the general public. If you would like a copy for yourself, together with forms to enable patients to obtain their own copies, please fill in coupon below.



Note: *Please do not confuse this booklet with the Cholesterol Depressant Diet Book, published by Wesson as an aid to physicians and* for professional distribution only. *The concept of the Cholesterol Depressant Diet Book stems from Wesson's value in cholesterol depressant diets. Where a vegetable (salad) oil is medically recommended for a cholesterol depressant regimen, poly-unsaturated Wesson is unsurpassed by any readily available brand.*

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Lifts depression...as it calms anxiety!

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Balances the mood — no "seesaw" effect of amphetamine-barbiturates and energizers. While amphetamines and energizers may stimulate the patient — *they often aggravate anxiety and tension.*

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Dosage: Usual starting dose is 1 tablet q.i.d. When necessary, this dose may be gradually increased up to 3 tablets q.i.d.

Composition: 1 mg. 2-diethylaminoethyl benzilate hydrochloride (benactyzine HCl) and 400 mg. meprobamate. **Supplied:** Bottles of 50 light-pink, scored tablets. Write for literature and samples.

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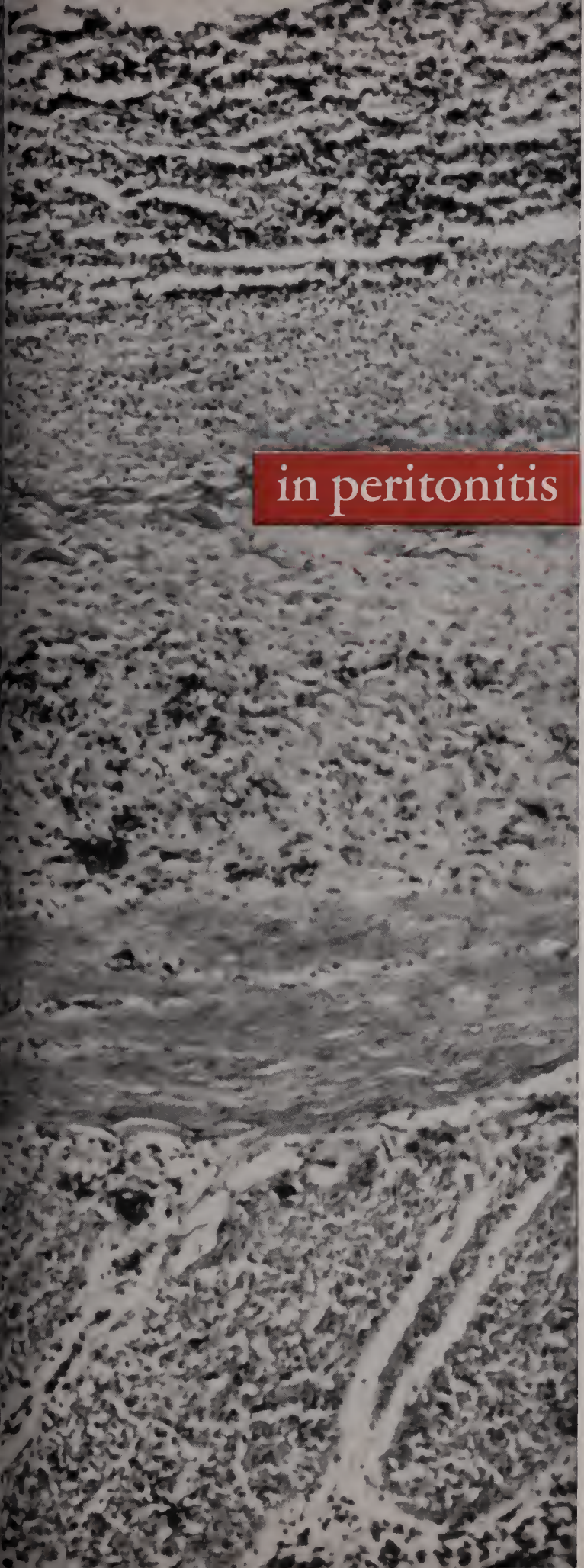
WALLACE LABORATORIES / *Cranbury, N. J.*

CD-2839



Therapeutic confidence

Panalba is effective against more than 30 commonly encountered pathogens including ubiquitous staphylococci. Right from the start, prescribing it gives you a high degree of assurance of obtaining the desired anti-infective action in this as in a wide variety of bacterial diseases.

Supplied: Capsules, each containing Panmycin* Phosphate (tetracycline phosphate complex), equivalent to 250 mg. tetracycline hydrochloride, and 125 mg. Albamycin,* as novobiocin sodium, in bottles of 16 and 100.

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Caution: Since the use of any antibiotic may result in overgrowth of nonsusceptible organisms, constant observation of the patient is essential. If new infections appear during therapy, appropriate measures should be taken.

As with any serious infection, therapy of peritonitis with Panalba or other antibacterial agents is adjunctive to surgical procedures and supportive therapy.

Inflammatory process of the peritoneum

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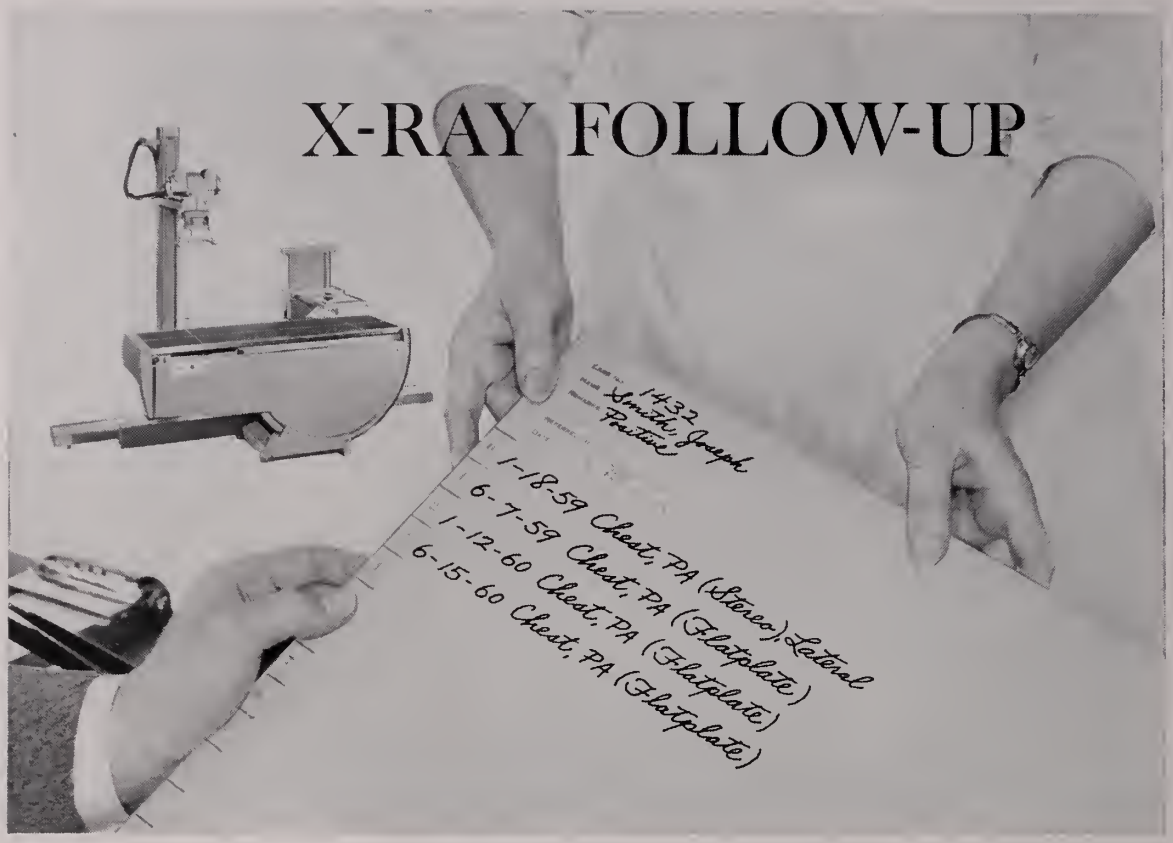

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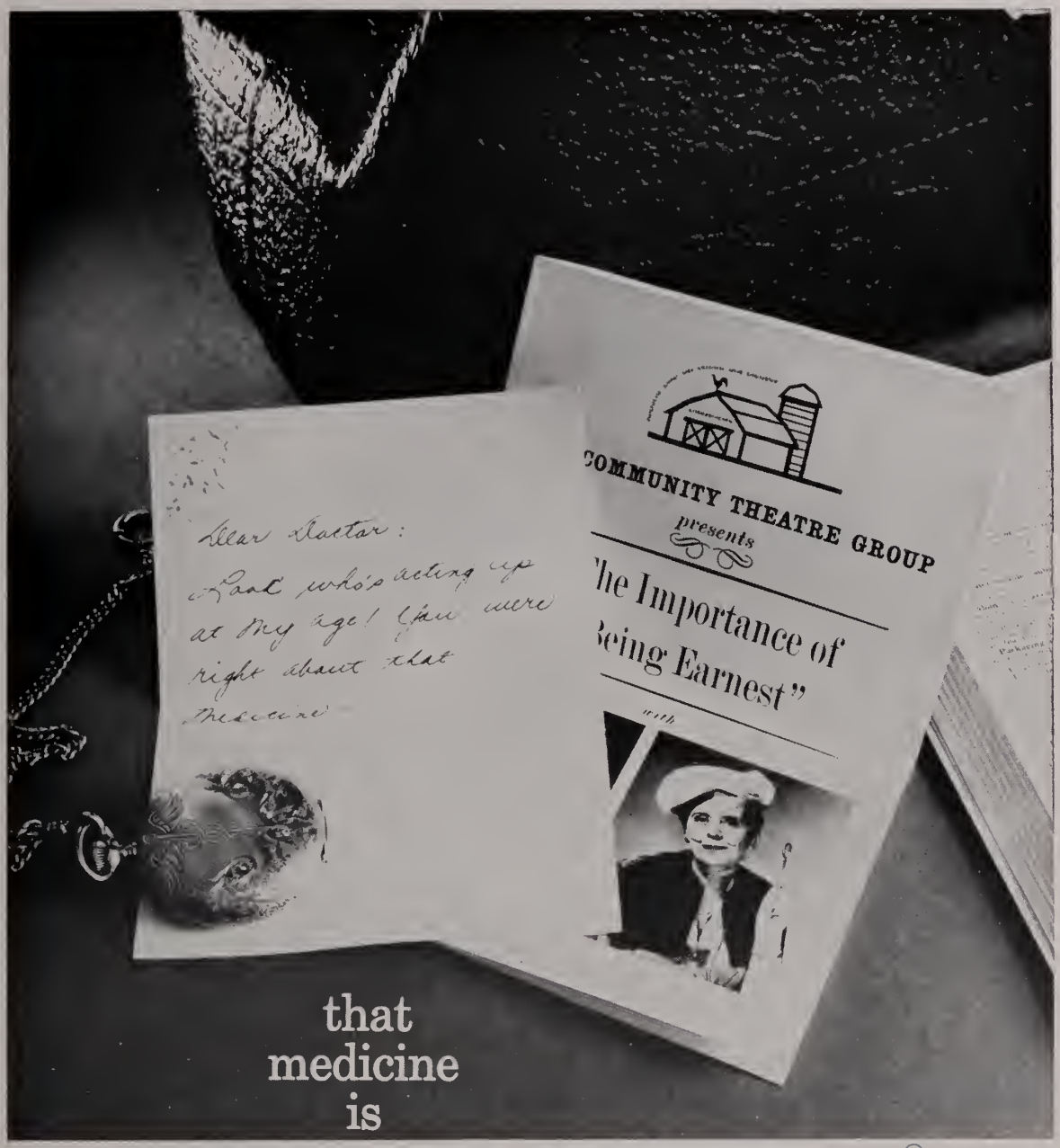

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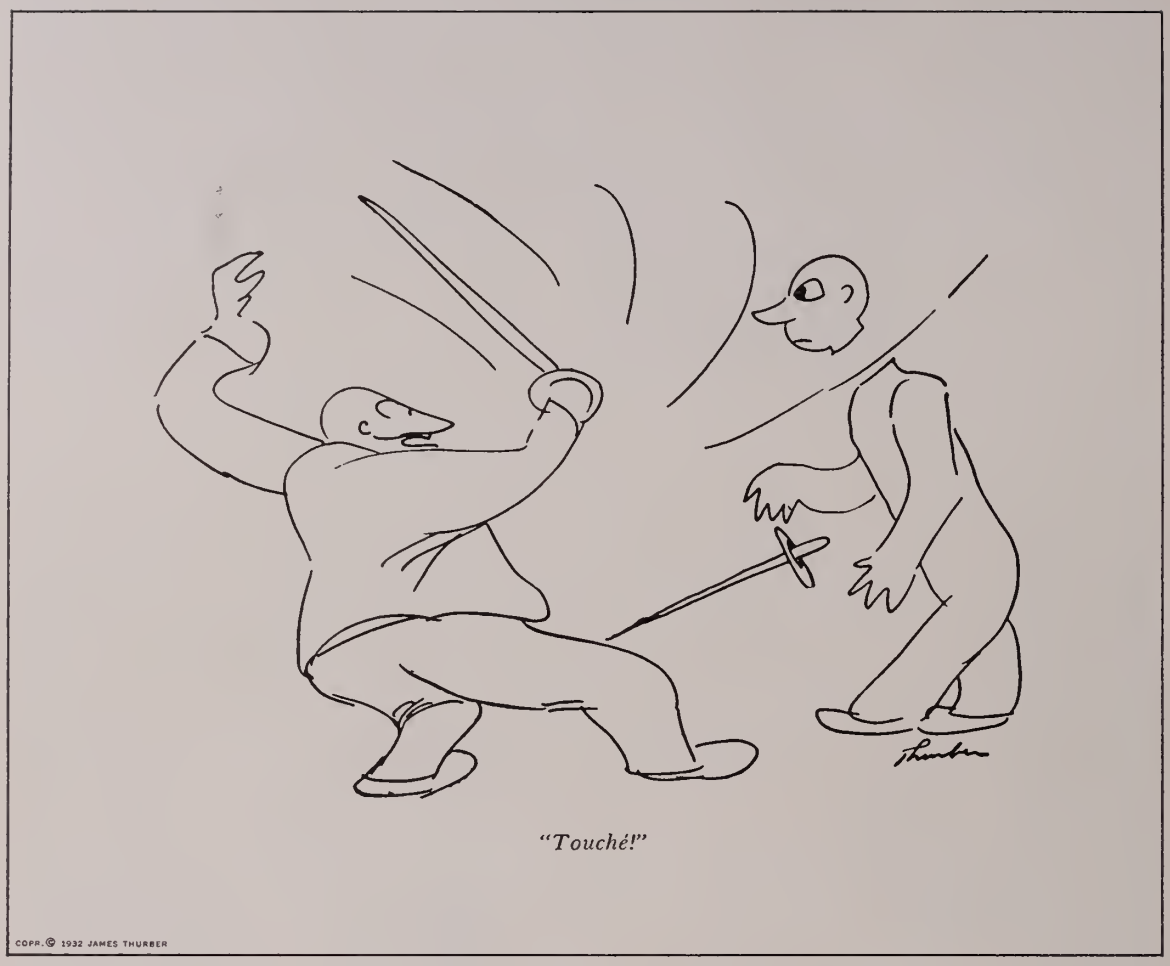

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Antivert® STOPS VERTIGO

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Reference: 1. Scal, J. C.: Eye Ear Nose & Throat Month. 38:738 (Sept.) 1959.

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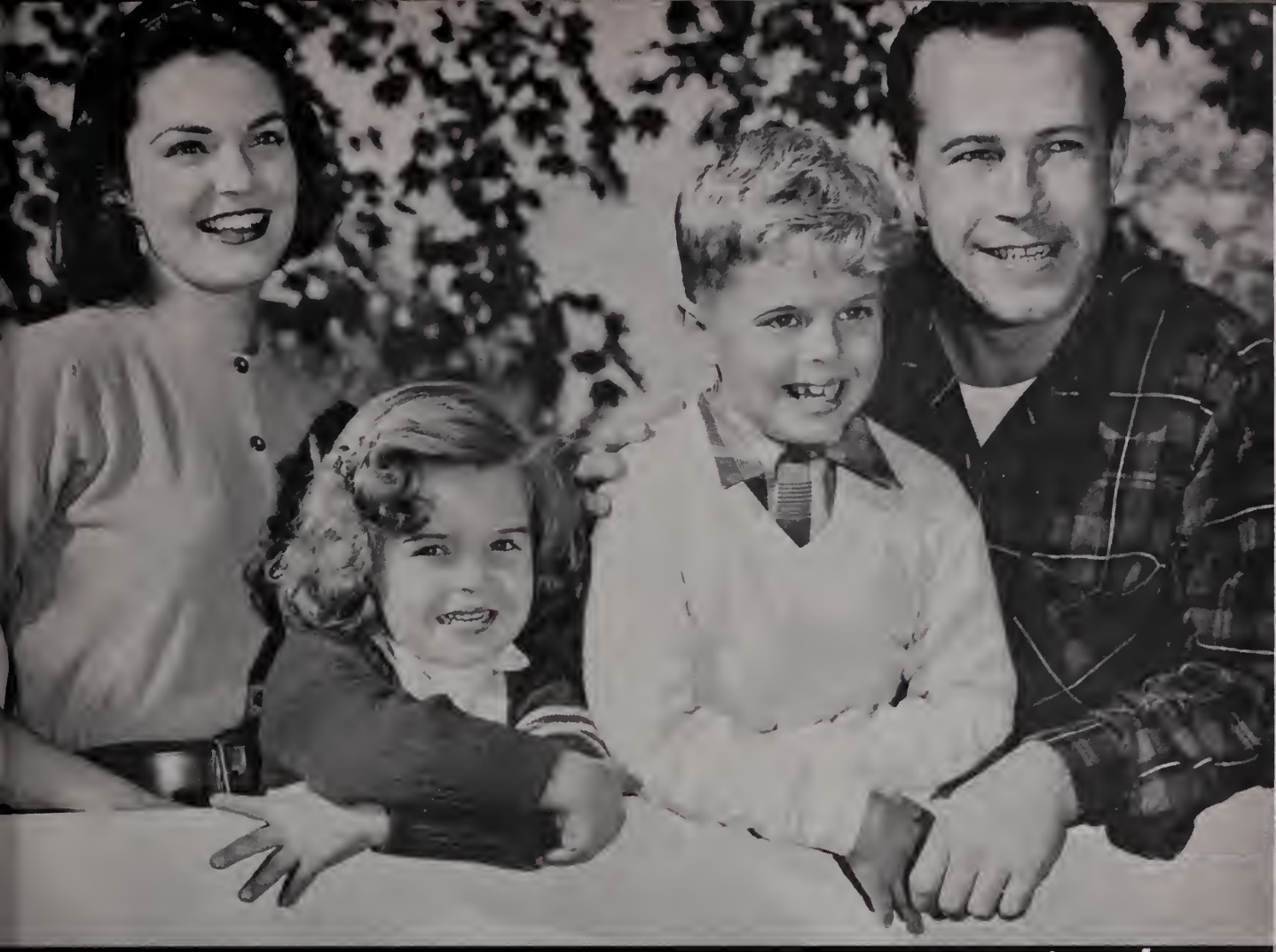

The CEVIRATE Family Plan!

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When iron deficiency anemia is indicated, CEVIRATE *Tablets, which supply high level iron dosage in the form of well-tolerated ferrous fumarate, combined with ascorbic acid, provide effective therapeutic response.*

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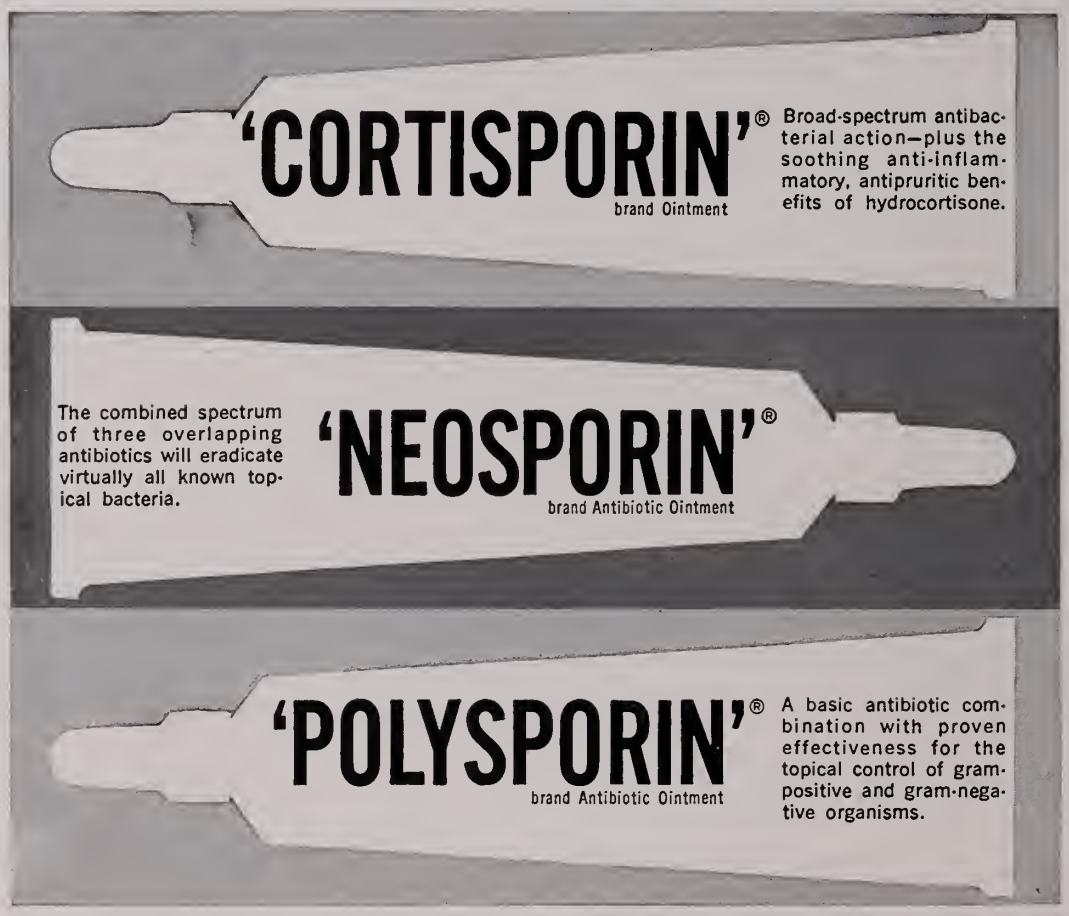

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(1) Carter, S.: *M. Clin. North America* 37:315, 1953.
(2) Maltby, G. L.: *J. Maine M. A.* 48:257, 1957.
(3) Crawley, J. W.: *M. Clin. North America* 42:317, 1958.

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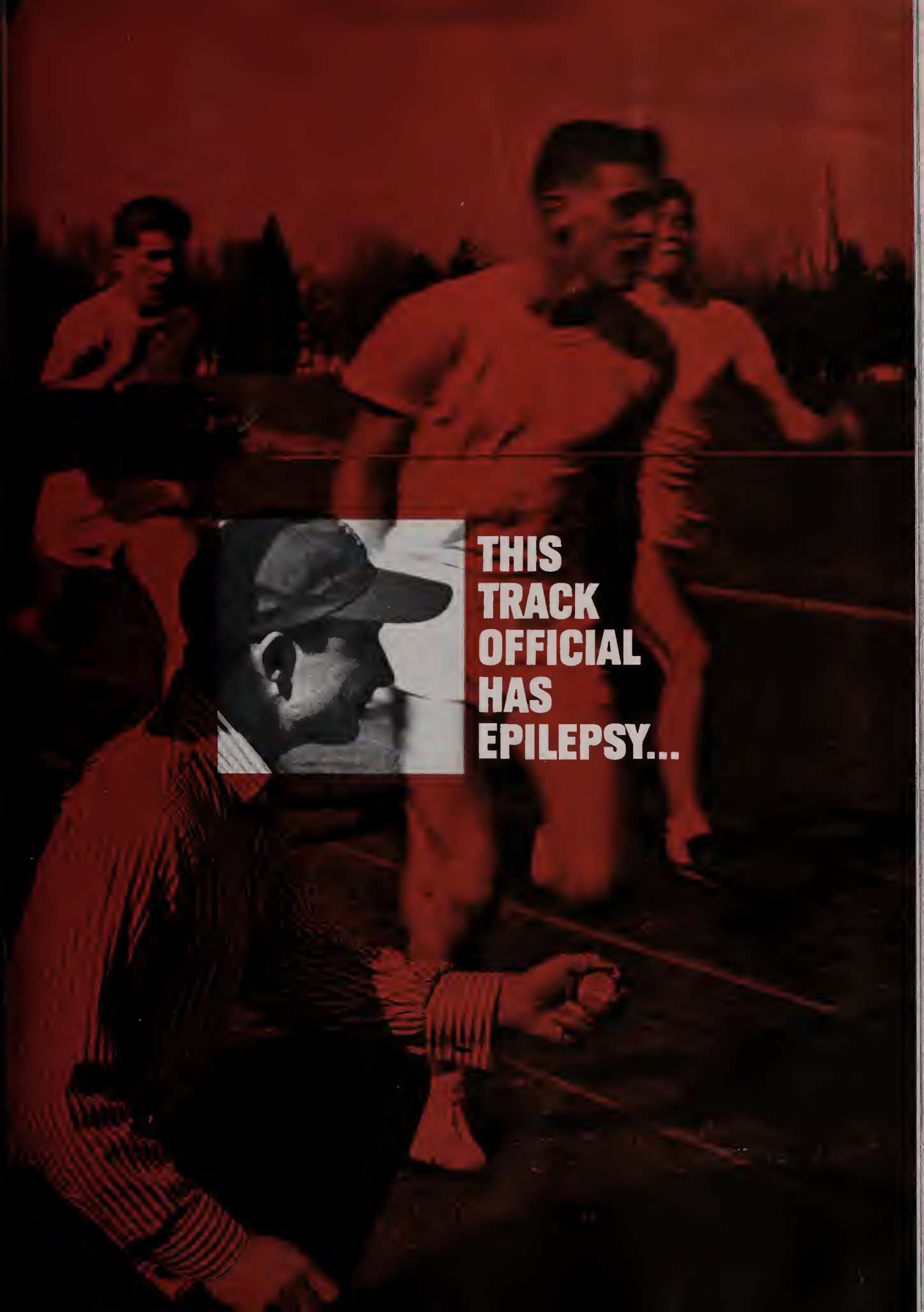
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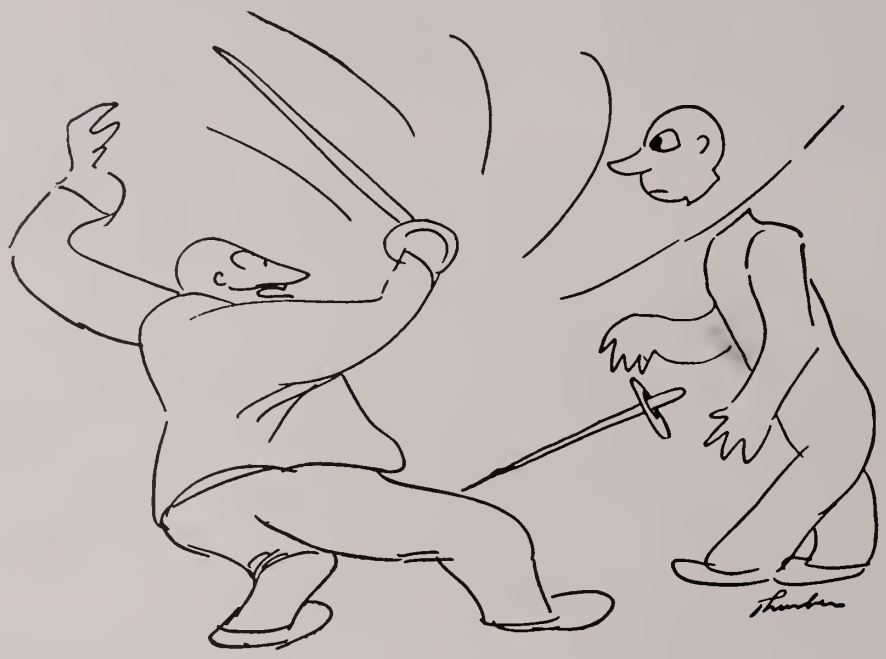

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References: 1. Lineback, M.: The Eye, Ear, Nose and Throat Monthly *39*:342 (April) 1960. 2. Fuchs, A. M. and Maurer, M. L.: New York J. Med. *59*:3060 (August 15) 1959. 3. Kreindler, L. *et al.*: Antibiotic Med. and Clin. Therapy *6*:28 (January) 1959. 4. Schiller, I. W. and Lowell, F. C.: New England J. Med. *261*:478 (September 3) 1959. 5. Edmonds, J. T.: The Laryngoscope *69*:1213 (September) 1959. 6. Horstman, H. A.: Am. Pract. & Digest Treat. *10*:96 (January) 1959.

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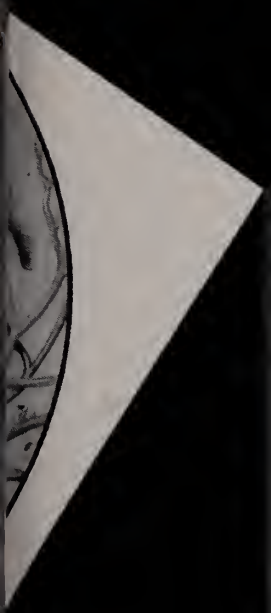

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1. Youmans, J. B.: Am. J. Med. 25:659 (Nov.) 1958

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arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]

3. Fernandez-Herlihy, L: Lahey Clinic Bull. 11:12 (July-Sept.) 1958.

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.: Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57.

degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser, W., and Fong, T.C.C. in Stieglitz, E. J.: Geriatric Medicine, 3rd edition. J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]

8. Duncan G. G.: Diseases of Metabolism 4th edition W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958.

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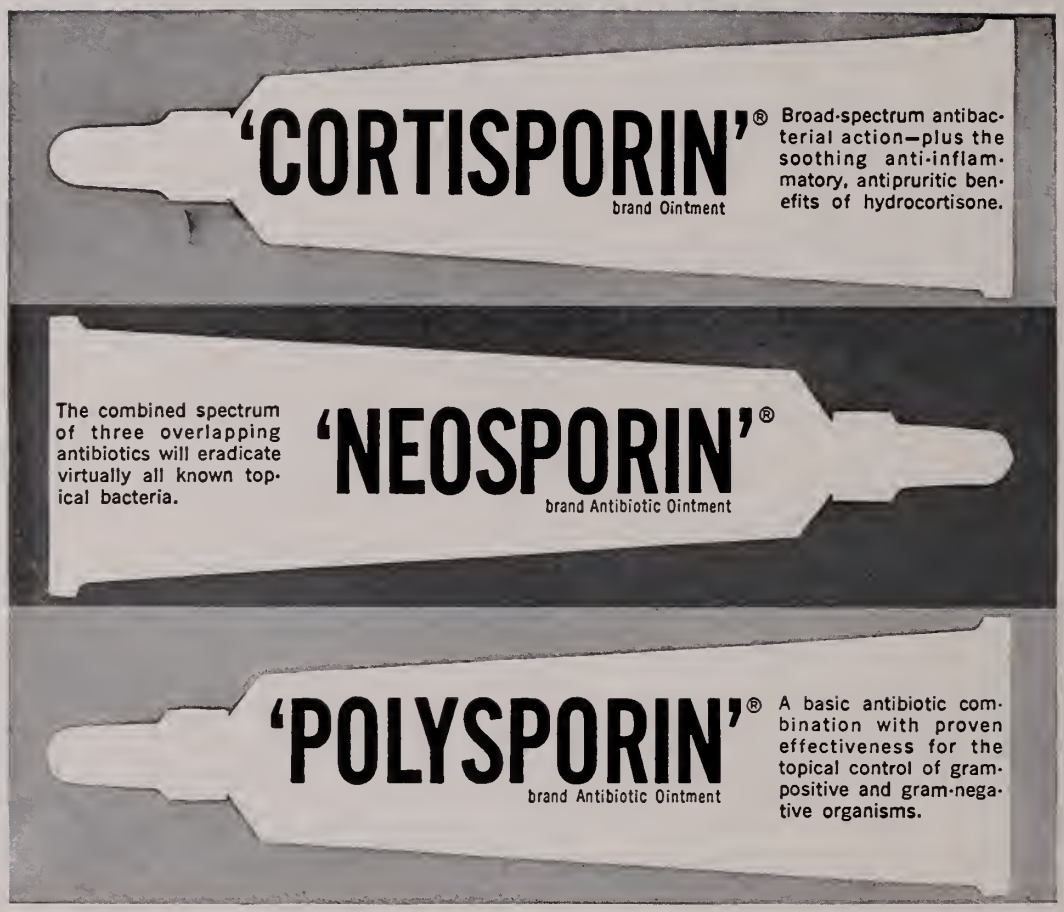

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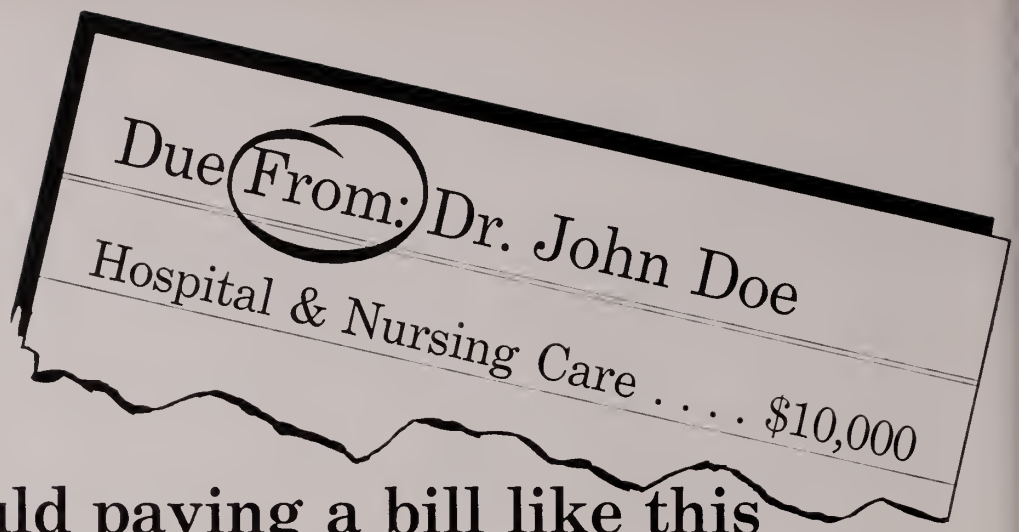

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The Virginia
MEDICAL
MONTHLY

June, 1961
Vol. 88, No. 6
Whole No. 1309

Guest Editorial . . . .

Medicine and Its Public Image

THAT "character is what we are, and reputation what others think we are," has a real bearing on what the term public relations means today. This term, "public relations", has taken on an ever widening meaning in the modern world so that it has come to encompass such concepts as propaganda, advertising, persuasion, and the acceptance of the public image of one group or individual by others. It seems to me that the emphasis on "front" is exaggerated to the point that the more fundamental elements which make up character are ofttimes minimized or forgotten. Madison Avenue has brain-washed many of us into believing that appearance is the important thing. We have made appearance a graven image and have all but stooped to worship it.

This concept explains why the medical profession has reluctantly been forced to consider the nature of its public image. Since all institutions and professions by virtue of their growth in an image-seeking society must have an image for comparison with other images, it has behooved the medical profession to try to form a publicly acceptable image. This has been difficult because a reputation should be a by-product of sound character which after all is an individual matter. The old-time family physician had this in the eyes of his patients and he did not worry about whether anyone else had this image of him or not. It didn't matter! With the increase in population and the increase in specialization this image of the single physician of necessity had to be enlarged and projected, and in doing so distortion was bound to occur. All physicians regret this distortion. However, the fundamental character of the physician is still there and his mass image is beginning to be cleared up. His "telephysician" portrait is becoming clearer in the public mind and the attributes of color which made up the ideal of the horse-and-buggy doctor are still found in the modern physician though perhaps in slightly different composition.

In order to discover what our true image as physicians was, the Public Relations Committee of the Richmond Academy of Medicine sent out a questionnaire designed to reflect the humanitarian interests and attitudes of its membership and its relationship to the community. Two hundred forty physicians answered the questionnaire. They contributed 27,115 hours of teaching without remuneration or an average of 113 hours per physician per year. They gave 13,764 hours to community service, an average of 57 hours per physician. Two hundred twenty-nine of the 240 reporting contributed to the Community Chest or other community agencies. The average physician gave 110 professional hours to charity patients per year. Members of the Richmond Academy of Medicine actively participated in some 37 community organizations.

The modern physician still works long hours averaging from 50 to 80 hours weekly, but he still finds time for regular vacations, for refresher courses to keep him abreast of advances in his particular field. He has become a better husband and father and neighbor as he has tried to develop interests outside of his profession. He has taken a keener interest in politics as politicians have taken more interest in health and medical care.

In Richmond through the Academy of Medicine he has set up a monitoring system for night and week-end coverage so that no patient in our community will be unable to secure medical assistance in an emergency. Should the Doctors Exchange be unable to secure a physician, the monitor of the night is called and the patient is either seen by him or by another physician whom he calls if a true emergency exists. In other words, the monitoring physician assumes a personal responsibility to the unattended patient in his emergency. He becomes the Academy's friend to the patient in distress.

The Richmond Academy of Medicine also has a Mediation Committee as do most other societies throughout the country. It is its responsibility to mediate misunderstandings of financial or personal nature between patients and physicians. There have been but few such incidents to come before this Committee and amicable settlements are usually resolved.

The average physician in Richmond, Virginia, of which we have particular knowledge, believes that the best Public Relations are the result of treating each patient as he would like to be treated were he in need of medical care. There is no finer example of public relations than in the application of the Golden Rule.

JOHN P. LYNCH, M.D.

Editor's Note: Dr. Lynch was Chairman of the Public Relations Committee of the Richmond Academy of Medicine in 1960.

Resistant Staphylococcal Infections in Surgery

B. W. HAYNES, Jr., M.D.
MILES E. HENCH, Ph.D.
Richmond, Virginia

Many of the staphylococcus infections in hospital patients are resistent to the most frequently used antibiotics. A study of a large number of such infections is reported.

THE PROBLEM OF INFECTIONS in hospitalized patients has been a continuous one throughout recorded medical experience. With the advent of penicillin therapy, great hope was held for the obliteration of all infection. However, with usage, certain strains of organisms have appeared which are resistant to penicillin therapy. When penicillin was first introduced, virtually all strains of staphylococci were sensitive to this agent. Associated with continued usage of this drug, certain strains have appeared which demonstrate resistance to it. This circumstance has required the development and use of other potent antibiotic agents in order to achieve control over staphylococci. With the use of these more potent agents, the same distressing tendency for the development of resistance has continued. At the present time staphylococcal infection forms a major problem in hospitalized patients. The following observations will serve to illustrate and characterize the problem in a large general hospital on a surgical service.

One of the characteristics of certain staphylococci is their ability to produce a fibrin clot in citrated plasma. The ability of the organism to produce a clot has been associated with pathogenicity; such organisms are described as being coagulase positive. Many of such staphylococci are susceptible to attack by specific strains of viruses called staphylococcal bacteriophage.[1] This fact is useful in recognizing strains of coagulase positive staphylococci not distinguishable by any other means. Bacteriophage typing is a useful epidemiological tool for identification of specific strains of organisms.

Based on factors of occurrence and interrelationships of host strains of staphylococci, bacteriophages have been grouped. These groupings are shown in Table I. There are four numbered groups and one miscellaneous or unassigned group. A given strain of staphylococcus may be susceptible to one, several, or none of the phages represented. The majority of the isolated phages belong to group III. The majority of staphylococci are typed with group three phages and this is also true of those staphylococci isolated from surgical infections. All phage type staphylococci and many combinations of types are found to occur; however, certain patterns are more commonly associated with infection.

TABLE I

Staphylococcal Phage Grouping

Group I
29, 52, 52A, 79, 80
Group II
3A, 3B, 3C, 55, 39, 71, 523
Group III
6, 7, 42B, 42E, 47, 53, 54, 70, 73, 75, 77, VA_4
Group IV
42D
Miscellaneous
44A, 47C, 81, 187

In observations of the phage typing pattern, some types are found to occur with

alarming frequency in hospital populations of staphylococci. The most frequently occurring phage type of pathogenic staphylococcus is 52-42B-80-81. Figure 1 illustrates

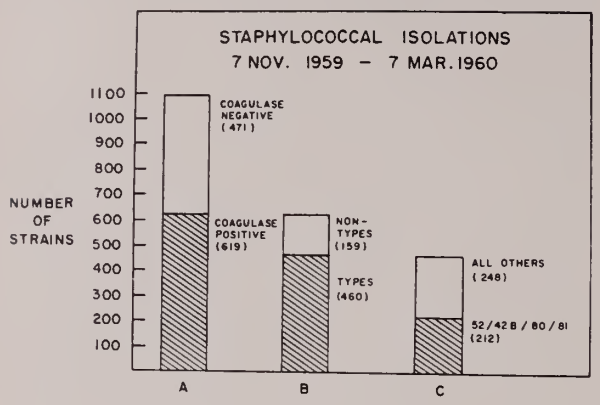

Fig. 1

the interrelationships of 1,090 single staphylococcal strains. These are consecutive isolates from the material presented to the bacteriology laboratory of the Medical College of Virginia Hospital during the period 7 November 1959 through 7 March 1960. Column A is a graphic representation of the total number of strains of staphylococci isolated during this time. Of the 1,090 isolates, 619 or 57% are pathogenic as indicated by the characteristic of being coagulase positive. Column B illustrates the bacteriophage typing characteristics of the 619 pathogenic isolates. 460 or 74% are typable. The remainder are untypable. Untypable strains by this method may occur in 25 to 40%. Column C represents the distribution of phage types in the typable group. There are 212 strains belonging to phage type 52-42B-80-81 which amounts to 46% of typable strains and 34% of all pathogenic staphylococci isolated. The pathogenicity and frequency of occurrence of this phage type staphylococcus is real cause for concern.

Perhaps the most important aspect of the entire problem from the standpoint of management of infection is antibiotic sensitivity. Figure 2 illustrates the antibiotic sensitivity pattern in this group of organisms. The ordinate represents the percentage

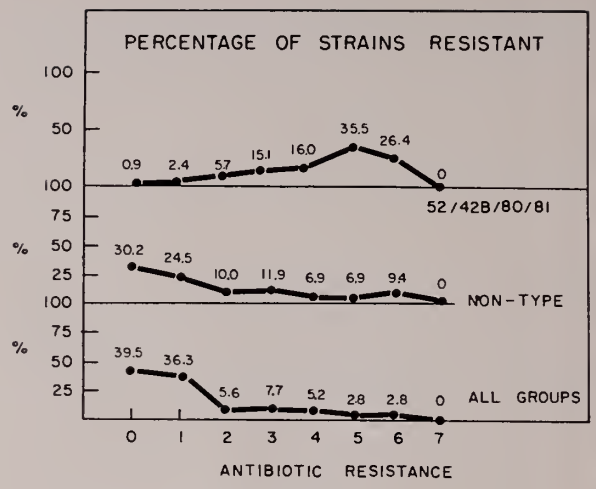

Fig. 2

of strains resistant to antibiotic. The abscissa is marked with numbers 0 to 7 which is the representation of the total number of antibiotics to which the particular group of staphylococci are resistant. Thus, 0 indicates that organisms in this group are resistant to none of the 7 antibiotics used as a standard test in this series, 2 indicates resistance to 2, etc. These antibiotics are: penicillin, erythromycin, streptomycin, bacitracin, chloramphenicol, tetracycline, and oleandomycin. The significantly high resistance pattern of the 52-42B-80-81 strains is readily apparent and emphasizes the difficulty in managing infections with this organism. Among the other phage groups of organisms, the occurrence of highly resistant forms to antibiotic therapy also presents treatment problems. This can be said also for the nontypable strains, although in neither of these latter two groups is the resistance problem as general as in the 52-42B-80-81 phage type group.

Antibiotic resistance among micro-organisms is in direct proportion to the exposure of bacterial populations to those antibiotics used in treatment. Thus, as more patients are treated with a given antibiotic in a given locality a progressive variation leading to more and more frequent occurrence of resistant strains may be expected. To demonstrate the workings of this process of unnatural bacterial selection, antibiotic sensi-

tivity of staphylococci cultured from November 1958 through December 1959 were gathered and are presented in Figure 3. On

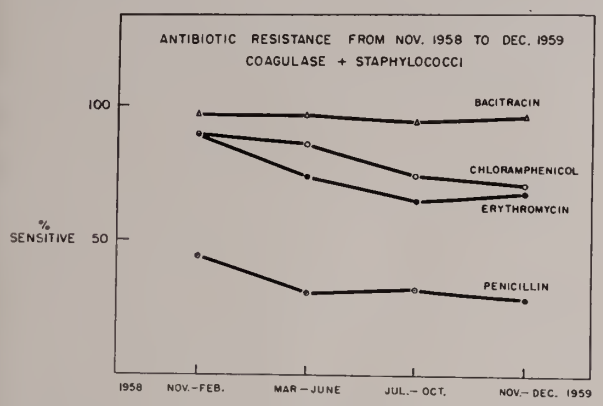

Fig. 3

this figure the staphylococcal sensitivity to bacitracin, erythromycin, chloramphenicol and penicillin have been charted at four monthly intervals for comparison. It will be observed that there is no significant change during this period of time in the occurrence of sensitivity of coagulase positive staphylococci to bacitracin. Sensitivity to penicillin was found in 44% of all isolated strains at the beginning of this period, and, at the termination, after a reasonably level course, 30% were sensitive. Neither penicillin nor bacitracin is employed in our hospital circumstance in a quantity or frequency approaching that of either chloramphenicol or erythromycin. During this same period of time, it will be observed that both chloramphenicol and erythromycin experienced an approximately 20% loss of effectiveness due to bacterial resistance during this period. Massive usage of these two agents has left its mark in increased resistance among the micro-organisms isolated.

With this background of data in mind concerning the staphylococcal population of the entire hospital, the infections occurring on the general surgical service from 7 November 1959 through 15 March 1960 have been collected for analysis. A total of 88 infections occurred in the patients admitted to the general surgical service during this time. Since this was a consecutive series of cases, it was felt that analysis of this group would give a cross sectional evaluation of the character of the staphylococcal infection occurring during this period. The infected cases studied included those occurring post-operatively in incised wounds, soft tissue abscesses contracted prior to hospital admission, tracheobronchial infection following operation and other miscellaneous infections. Thirty-seven cases were post-operative wound infections, seventeen cases were soft tissue abscesses, and ten cases were post-operative tracheobronchial infections. At first glance it would appear that 37 cases out of a total of 88 is a high post-operative wound infection rate. However, upon examination of the cases it was apparent that the wound infections were occurring in those cases where the risk of infection was high. This included poor risk patients where complicated and prolonged surgical procedures such as abdominal exploration with repair of large or small bowel injury was required. One case in the group was a wound infection following a herniorrhaphy. Of the 17 cases classified as soft tissue abscess virtually all were contracted prior to hospital admission and entered with the abscess as the treatment problem. Of the tracheobronchial infection group, the disease varied from pneumonia to a positive sputum without demonstrable parenchymal disease and occurred in a wide variety of major surgical problem cases, all of which were in the post-operative stage.

TABLE II

Antibiotic Sensitivity Pattern of Staphylococci from 88 General Surgical Infections

	Penicillin Sensitive	Erythromycin and Chloromycetin Sensitive	Bacitracin Sensitive
No. of Cases..	21	46	20
%.....	24	52	23

Table II demonstrates the antibiotic sensitivity pattern of staphylococci isolated from 88 patients. During the period of this

study, routine antibiotic sensitivities included the following antibiotics: Penicillin, streptomycin, erythromycin, chloromycetin, tetracycline, oleadomycin, and bacitracin. Table II attempts to group staphylococci into three patterns of increasing virulence; that is, the penicillin sensitive group, the erythromycin and chloramphenicol sensitive group, and the bacitracin sensitive group. This grouping is somewhat arbitrary but will serve to illustrate the changing order of virulence and help to characterize the staphylococcal population occurring in these patients from the therapeutic point of view. Sensitivity studies to antibiotics such as vancomycin, ristocetin, kanamycin and altafur are performed when the staphylococcus shows sensitivity only to bacitracin but are not included as part of the study. In constructing Table II, an organism sensitive to penicillin was listed as such regardless of the fact that it was usually sensitive to the remainder of the antibiotics tested as well. Those listed as sensitive to erythromycin and chloromycetin excluded the penicillin sensitive group. Those listed as bacitracin sensitive were those exclusively sensitive to bacitracin. Thus, a pattern of increasing virulence is presented. One culture demonstrated bacitracin resistance and was not included in the table. It will be noted from Table II that the majority of the organisms cultured from these infections fell into the erythromycin and chloromycetin sensitive group including slightly over half of the entire series. The penicillin sensitive and bacitracin sensitive groups were approximately equal, that is, 20 and 21% respectively. It is apparent that over half of the staphylococci are penicillin resistant and approximately one-fourth are penicillin sensitive. The need for proper identification of the organism following infection and its antibiotic sensitivity is clear before a definitive choice of antibiotic therapy can be made.

Table III demonstrates the spectrum of phage typing encountered in the organisms removed from these 88 general surgical cases. It will be observed that 37 of the cases were of the common 52-42B-80-81 phage type, 12 were of the 53-54-75-77 VA_4 classification, and 28 were untypable. The incidence of 52-42B-80-81 phage type in these surgical cases is approximately the same as that occurring in the hospital population in general. This demonstrates the widespread nature of the problem and the importance of proper aseptic precautions and culture and sensitivity data in the control of surgical infection.

TABLE III

Bacteriophage Typing of Staphylococci from 88 General Surgical Infections

	52-42B 80-81	53-54 75-77 VA_4	3A 3C	6-42E 7-80	7-53 77	29-52 42D-47C	Untypable
No. of Cases	37	12	8	1	1	1	28
%	42.0	13.9	9.0	1.1	1.1	1.1	31.8

The relationship of bacteriophage typing to antibiotic sensitivity is demonstrated in Table IV. It will be noted that of the 21 cases demonstrating staphylococci which were penicillin sensitive, only 2 were in the 52-42B-80-81 phage type category. However, 21 of 47 cases in the erythromycin and chloromycetin sensitive group were in this category, and 15 out of 20 in the bacitracin sensitive staphylococci were in this grouping. It would appear, therefore, that the more resistant the staphylococcus is to the commonly used antibiotics the more likely it is to be in the 52-42B-80-81 phage type grouping.

The considerable incidence of phage type 52-42B-80-81 staphylococci in the hospital environment suggests that this organism is being brought to the hospital by patients

TABLE IV

Relationship of Bacteriophage Typing to Antibiotic Sensitivity of Staphylococci from 88 General Surgical Infections

	52-42B 80-81	53-54 75-77 VA_4	3A 3C	6-42E 77-80	7-53 77	29-52 42D-47C	Untypable
Penicillin Sensitive (21 Cases)	2	1	6	1			11
Erythromycin and Chloromycetin Sensitive (47 Cases)	21	10	2		1	1	12
Bacitracin Sensitive (20 Cases)	15						5

with infection produced by it and is being maintained in the hospital environment by cross contamination. If this be true, one might reasonably expect that patients with soft tissue abscesses entering the hospital with this disease as a primary complaint would contain a lesser number of this phage type than those patients acquiring post-operative wound infections and post-operative tracheobronchial infections while hospitalized. Table V examines this thesis in this group of cases. In 37 cases of post-operative wound infection, only 6 cultures were penicillin sensitive whereas 21 were erythromycin and chloromycetin sensitive. In 17 patients entering the hospital with soft tissue abscesses, 9 out of 17 were penicillin sensitive and 6 were erythromycin and chloromycetin sensitive. Of 10 patients with post-operative tracheobronchial infection, only 1 was penicillin sensitive. These data suggest that the hospital environment is selectively maintaining penicillin resistant staphylococci which are colonizing the wound and tracheobronchial tree of patients following operation. This statement implies the need for emphasis on asepsis, strict isolation, and careful judicious use of antibiotic therapy.

TABLE V

Antibiotic Sensitivity Pattern of Staphylococci from Different Types of Infection

	Penicillin Sensitive	Erythromycin and Chloromycetin Sensitive	Bacitracin Sensitive
Post-operative Wound Infections (37 Cases)	6 (16%)	21 (57%)	10 (27%)
Soft Tissue Abscesses (17 Cases)	9 (53%)	6 (35%)	2 (12%)
Post-operative Tracheobronchial Infections (10 Cases)	1 (10%)	6 (60%)	3 (30%)

The following case report will serve to illustrate a problem of resistant staphylococcal infection following surgery:

A 57 year old white male was admitted to the hospital with bilateral recurrent inguinal herniae. There was no history of incarceration. The patient had previously had a bilateral herniorrhaphy approximately 6 months prior to admission. A post-operative wound infection was known to have complicated recovery from the left herniorrhaphy. The remainder of his past history was non-contributory. On physical examination his blood pressure was 135/90, temperature 98.6, pulse 84, and respirations 22. He was a well developed, well nourished, robust white male in no distress. His chest

was somewhat emphysematous. Examination of the abdomen showed it to be protuberant, soft, non-tender, and harboring no palpable masses. There were large bilateral indirect recurrent inguinal herniae, both descending into the scrotum. The left was about the size of a grapefruit and the right the size of a lemon. The herniae were easily reducible. Admission laboratory studies showed a hemoglobin of 15.6 grams, a white cell count of 13,200 with 53% polys, 2 eosinophiles, and 45 lymphocytes. Urinalysis was within normal limits. The blood urea nitrogen was 15mg% and the fasting blood sugar was 75mg%. A chest x-ray on admission demonstrated some increased markings in both lower lung fields thought to be due to chronic bronchitis. The cardiac shadow did not appear to be enlarged, and an electrocardiogram was essentially within normal limits.

Ten days after admission, under general endotracheal anesthesia, a Cooper's ligament herniorrhaphy was carried out on the left side uneventfully. On the day following operation the patient's bowel sounds were active and he was passing flatus. The temperature was elevated to 100.5 degrees. On the third day following operation some inspiratory and expiratory wheezes were noted in the posterior chest but these cleared well on coughing. No rales were heard. The patient was housed in an eight-bed ward, and at this time many of the patients in that area developed symptoms of an upper respiratory infection associated with an elevated temperature suggestive of influenza-like syndrome. It was believed that the patient had developed a viral upper respiratory infection and was treated conservatively. On the evening of the fourth day following operation, the patient complained of a chill and his temperature spiked to 104 degrees. A sputum culture demonstrated Staphylococcus aureus coagulase positive which proved to be a 52-42B-80-81 phage type sensitive to chloromycetin and bacitracin only. The patient was treated intensively with chloromycetin, potassium iodide expectorant, and isuprel and alevaire by nebulizer. He continued to run a septic course. On the tenth day following operation, the patient complained of left anterior chest pain and respirations increased to 32 per minute. There was evidence of consolidation of the left lower lobe at this time and the patient's clinical condition worsened. On the 12th day following operation, the patient began to cough up bloody sputum for the first time, and an x-ray of the chest revealed an increase in the left lower chest density plus a solitary density in the right upper lung field consistent with a diagnosis of pneumonia and lung abscess. Treatment with altafur was added. However, the patient responded poorly, his color became worse, and his respirations more rapid. He expired on the evening of the 12th day following surgery. Autopsy findings revealed a severe confluent bronchopneumonia bilaterally, worse in the left lower lobe, with multiple small abscesses scattered throughout both lungs.

Comment: The relationship between viral upper respiratory infection and superimposed staphylococcal pneumonia is well established.[2] It seems likely in this patient that the upper respiratory infection provided a means for the staphylococcus to gain a foothold in the patient's lung resulting in pneumonia, abscess formation, and death. Though the source of the phage type 52-42B-80-81 staphylococcus is not known, it was acquired in the hospital environment and there was no apparent source of staphylococcal infection on the patient. Effective isolation could prevent staphylococcal infections of this type.

Summary

Data have been presented to characterize staphylococcal infection occurring in a large general hospital and on a general surgical service with regard to incidence of coagulase positive organisms, bacteriophage typing,

culture and sensitivity data. Since the occurrence of 52-42B-80-81 phage type staphylococcus is common and it is characteristically of a type resistant to commonly used antibiotics, the need for strict aseptic precautions, careful culture and sensitivity study of each infection, strict isolation precaution and precise antibiotic therapy are re-emphasized.

References

1. Blair, J. E. and Carr, M.: Bacteriophage typing of staphylococcus. J. Infect. Dis. 93: 1, 1953.
2. Vogel, R. A., Trotter, Y. J. Shinaberger, J. H. and McCroan, J. E.: Genesis and spread of a hospital staphylococcal epidemic on an adult medical ward. New England J. Med. 261: 1301, 1959.

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Salk Vaccine Could End Polio

Polio could be "virtually eliminated" with the currently available Salk vaccine if the population was adequately inoculated, according to four Baylor University researchers. Their conclusion was based on a study of polio cases occurring in the Houston area in 1958, 1959, and 1960, which showed the Salk vaccine provided "highly effective protection against paralytic poliomyelitis in persons who have had a series of three or more inoculations."

Joseph L. Melnick, Ph.D., Matilda Benyesh Melnick, M.D., Ramiro Pena, B.A., and Martha Yow, M.D., Houston, reported their study in the April 1st Journal of the America Medical Association.

Of 100 confirmed cases of paralytic polio in 1958 and 1959, only 3 occurred in patients who had received 3 or more Salk vaccine shots. The vaccine also protected against aseptic meningitis, a nonparalytic form of polio. Of 23 such cases, only 2 involved patients who had 3 or more Salk shots.

In 1960, the authors reported, there were five cases of paralytic polio and none of the patients had taken the full course of Salk shots. There were also two cases of nonparalytic polio and neither patient had received any vaccine.

"Although the numbers in 1960 are too few to be meaningful by themselves, they are similar to the data obtained in 1958 and 1959, and add support to the view that cases of poliomyelitis, exhibiting either paralysis or aseptic meningitis, can be virtually eliminated by the adequate use of polio vaccine."

Polio continues to appear because the vaccine is not administered to all susceptible persons. "No better results can be expected of any vaccine—either the inactivated one in current use, or the living attenuated one now under consideration in the United States—unless it is fully utilized in the susceptible population."

Diagnosis of Lung Disease

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HELEN LORRAINE
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MANY LUNG DISEASES present a similar clinical and x-ray picture. In a recent issue of the American Journal of the Medical Sciences, Gould, from the University of Arkansas, has listed alphabetically one hundred and fifty conditions which can present as disseminated lung disease. For example, under the letter "H" there are seven conditions, namely: Hand-Schuller-Christian disease; Hemorrhage; Hemosiderosis; Histocytosis; Histoplasmosis; Hodgkin's disease, Hyaline membrane disease.

In past years, the etiological diagnosis of these somewhat similar diseases was not very important as no specific therapeutic attack was available. In recent years the physician's armamentarium has markedly increased and specific diagnosis has become very important. The addition of antifungal agents, antituberculosis drugs, steroids, cancer chemotherapy. aerosol therapy, antibiotics and thoracic surgical procedures has placed the physician in a much better position for treating pulmonary disease. Also exact diagnosis is helpful for socio-economic reasons in industrial cases, medicolegal situations and in the field of preventive medicine.

Pulmonary disease presents a challenging diagnostic problem. Diseases to be considered in the differential diagnosis can be classified into inhalation, infectious, systemic, neoplastic, cardiovascular, traumatic, and idiopathic.

The physician managing a patient with bilateral diffuse pulmonary disease should have a definite organized pattern of diagnostic evaluation. On the following pages one suitable method of workup of these problems is presented by means of illustrations.

A complete and detailed history followed by a painstaking physical examination is all important. Certain laboratory work may be of value in the differential diagnosis. Chest x-ray is always indicated. Then the physician may select from a variety of studies which may enable him to clarify the etiological basis of the problem.

Fluoroscopy with barium in the esophagus is sometimes needed. Skin tests and sputum studies are often of value. Gastric washings may be helpful. Pulmonary function studies are rarely diagnostic but are of corroborative value on occasion.

Bronchoscopy, including biopsy and bronchial washings, is needed in certain cases. Of course, if pleural fluid is present, thoracentesis may be important. Vim-Silverman needle biopsy of thickened parietal pleura may sometimes result in establishment of the pathological diagnosis.

If palpable lymph nodes are present in the supraclavicular space, then prescalene fat pad excision is certainly indicated, and occasionally this procedure gives positive results even when no palpable nodes are found.

The court of last resort is lung biopsy. Virtually always, lung biopsy will result in a positive etiological diagnosis.

Abridgement of paper presented at Annual Meeting of The Medical Society of Virginia at Virginia Beach, Virginia, October 9-12, 1960.

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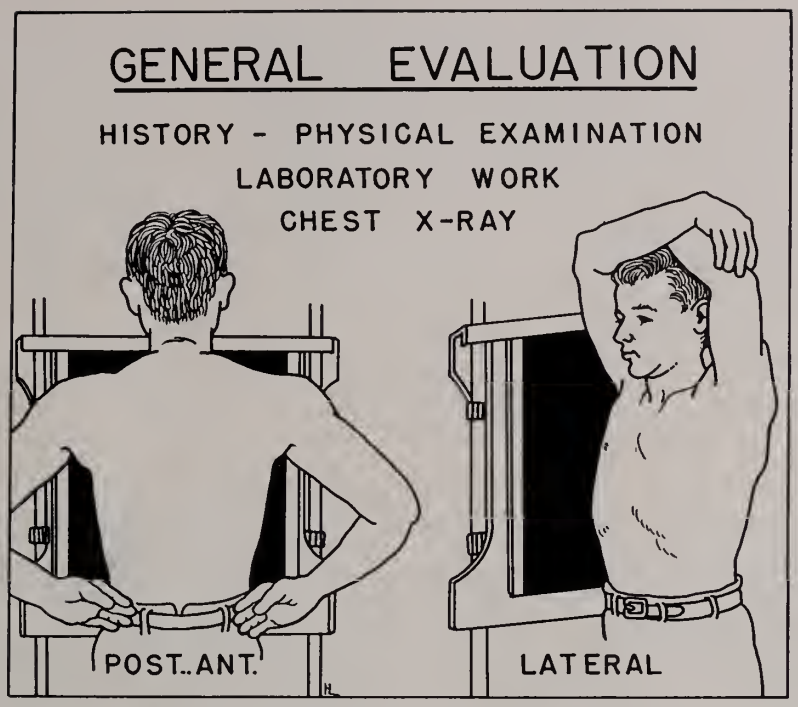
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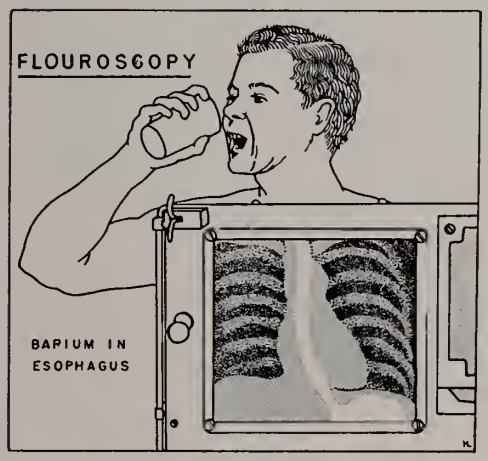
LATERAL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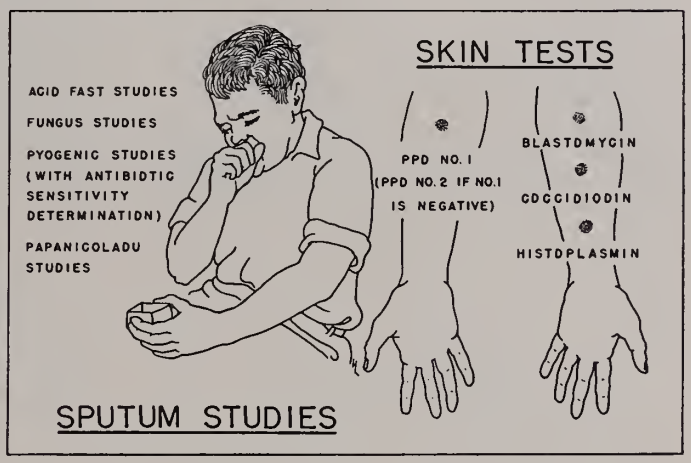
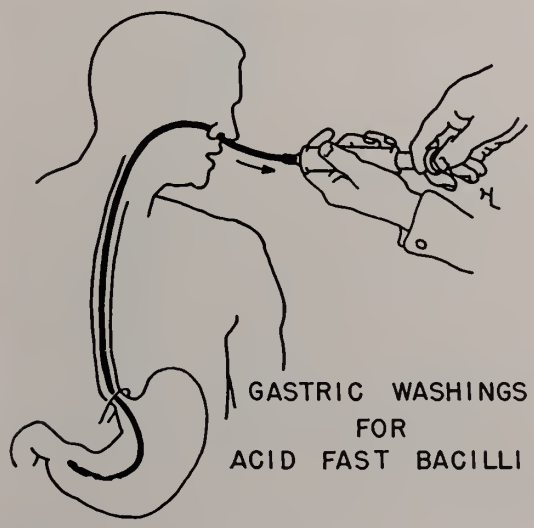

SKIN TESTS
ACID FAST STUDIES
FUNGUS STUDIES
PYOGENIC STUDIES (WITH ANTIBIOTIC SENSITIVITY DETERMINATION)
PAPANICOLAOU STUDIES
PPD NO. 1 (PPD NO. 2 IF NO. 1 IS NEGATIVE)
BLASTOMYCIN
COCCIDIOIDIN
HISTOPLASMIN
SPUTUM STUDIES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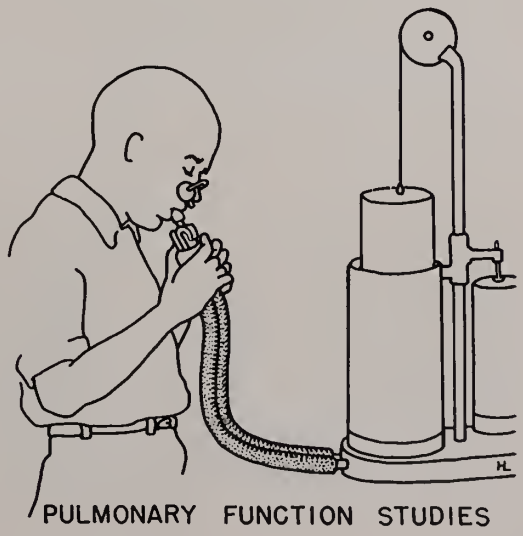
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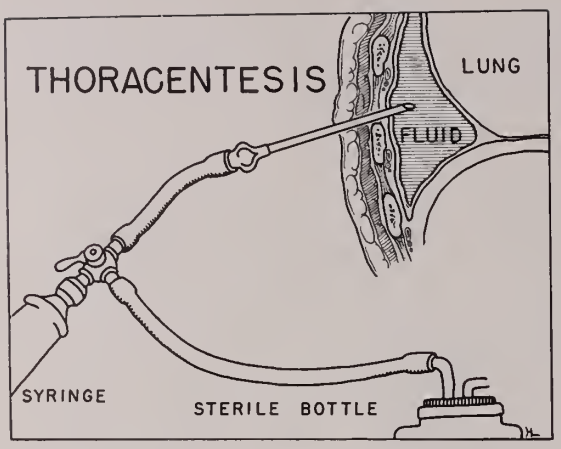
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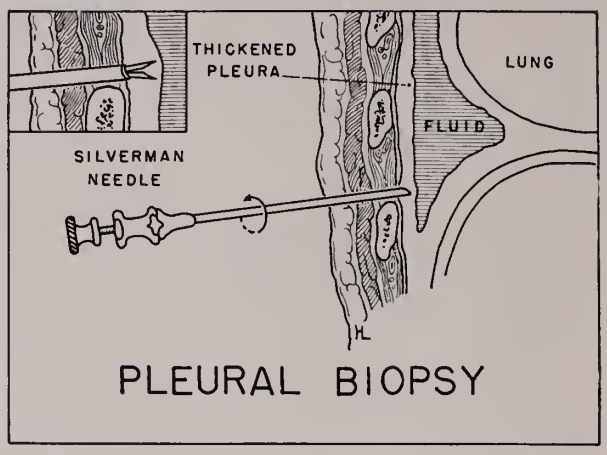
LUNG
FLUID
SYRINGE
STERILE BOTTLE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SILVERMAN NEEDLE
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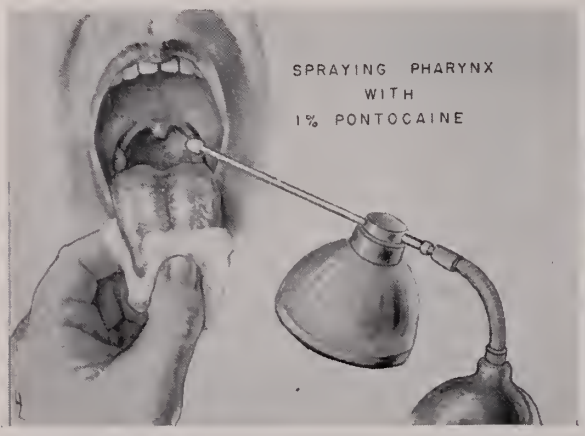
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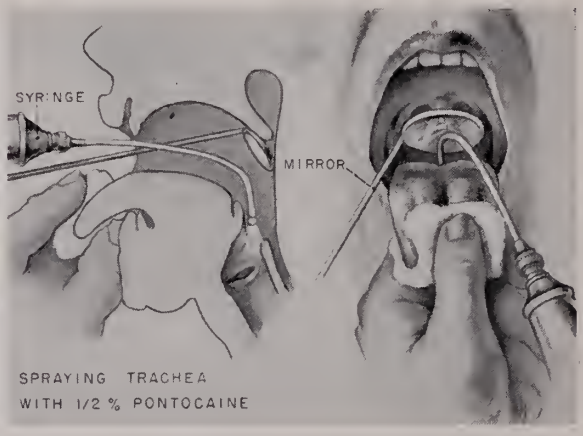
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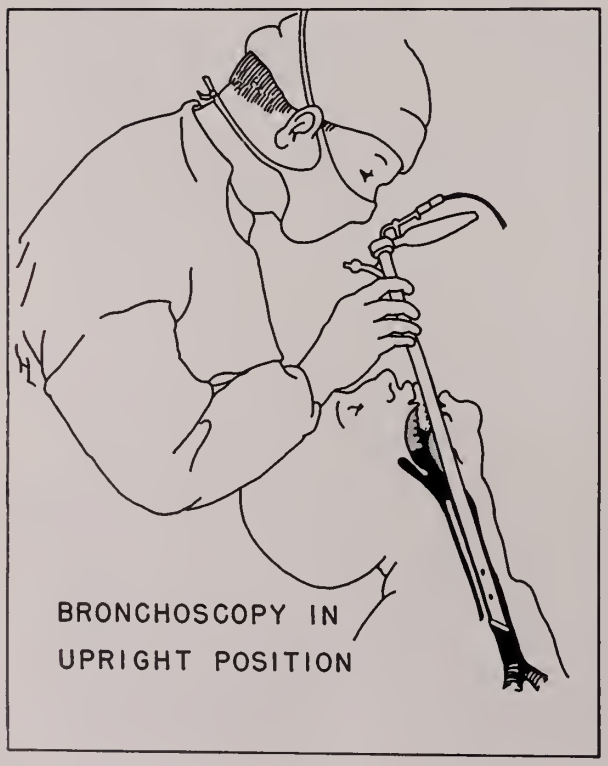
MIRROR
SPRAYING TRACHEA WITH 1/2 % PONTOCAINE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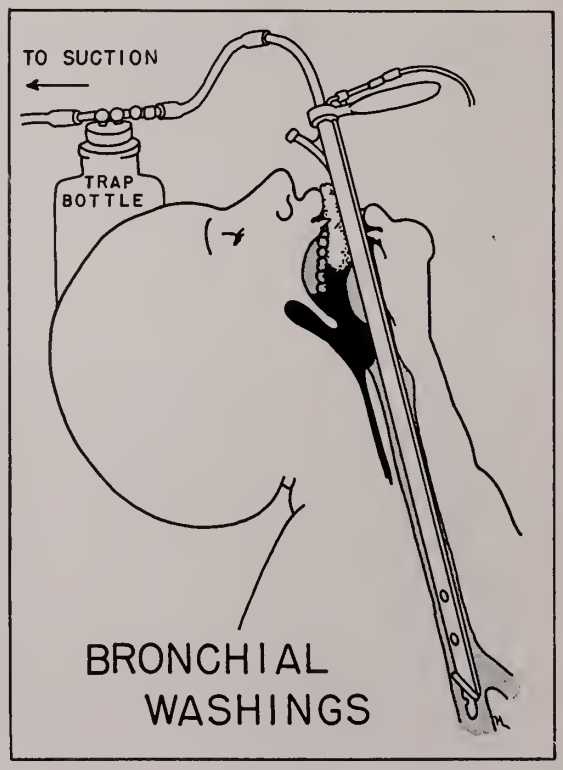
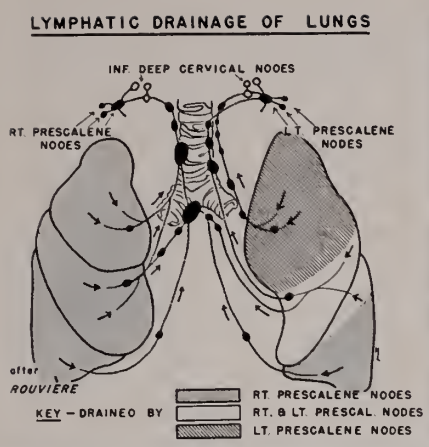

TO SUCTION
TRAP BOTTLE
BRONCHIAL WASHINGS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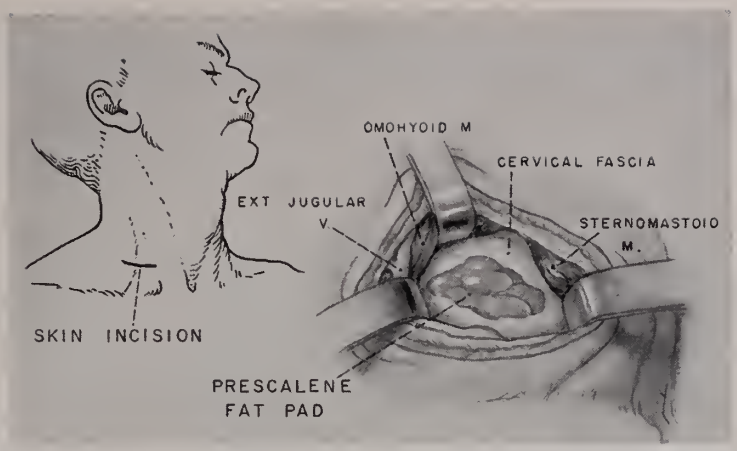
INF. DEEP CERVICAL NODES
RT. PRESCALENE NODES
LT. PRESCALENE NODES
after ROUVIERE
KEY – DRAINED BY
RT. PRESCALENE NODES
RT. & LT. PRESCAL. NODES
LT. PRESCALENE NODES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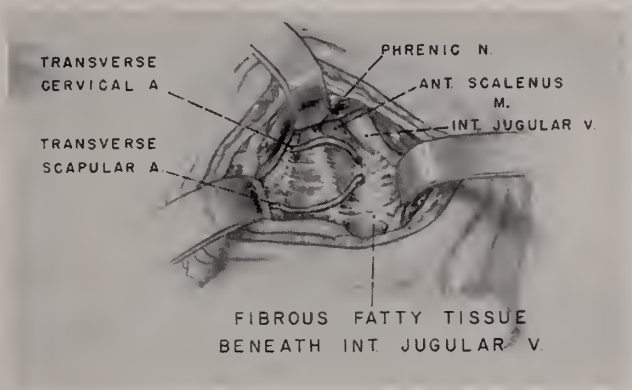
EXT JUGULAR V.
STERNOMASTOID M.
SKIN INCISION
PRESCALENE FAT PAD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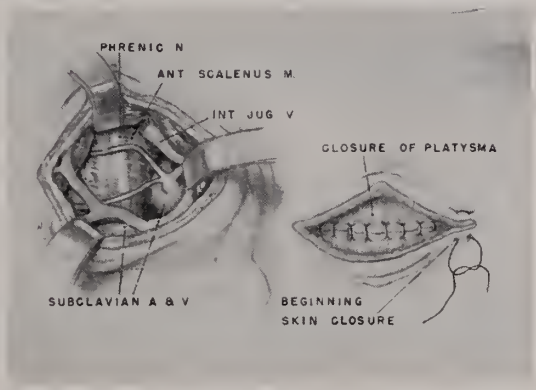
ANT. SCALENUS M.
INT. JUGULAR V.
TRANSVERSE SCAPULAR A.
FIBROUS FATTY TISSUE BENEATH INT. JUGULAR V.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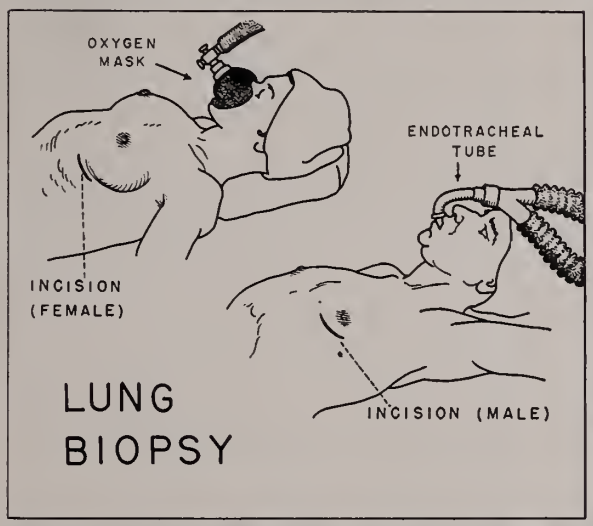
INT JUG V
CLOSURE OF PLATYSMA
SUBCLAVIAN A & V
BEGINNING SKIN CLOSURE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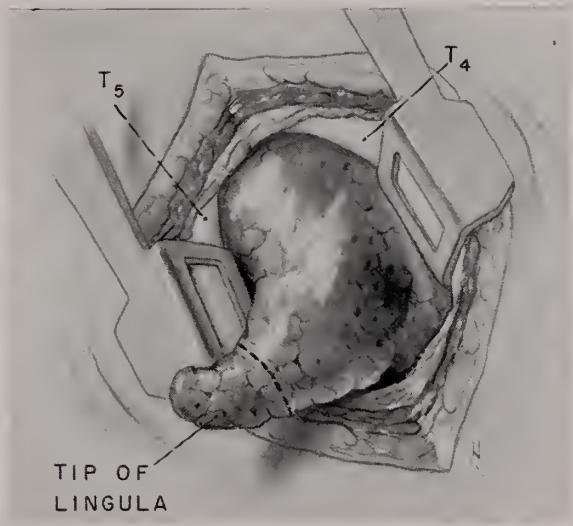
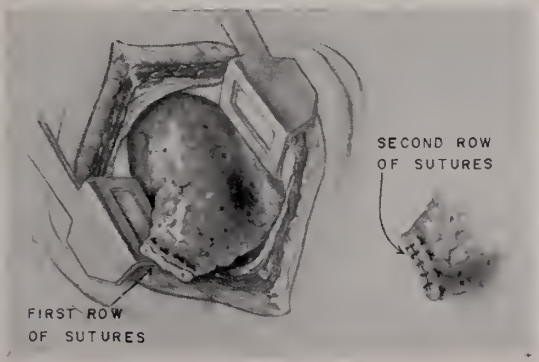
ENDOTRACHEAL TUBE
INCISION (FEMALE)
INCISION (MALE)
LUNG BIOPSY


T5
T4
TIP OF LINGULA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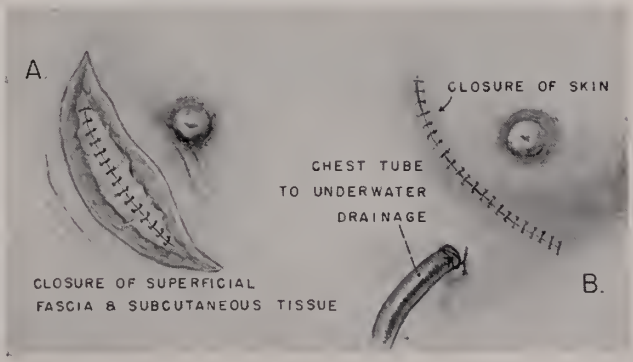
FIRST ROW OF SUTURES


A.
CLOSURE OF SKIN
CHEST TUBE TO UNDERWATER DRAINAGE
CLOSURE OF SUPERFICIAL FASCIA & SUBCUTANEOUS TISSUE
B.

Some Problems in Neonatal Surgery

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There are several situations that require emergency surgery in the infant. Some of the factors required for a successful outcome are considered here.

GOOD RESULTS in surgery in the first weeks of life demand an attention to many factors, among which are early diagnosis, choice of operative procedures, anesthesia, and detailed pre-operative and post-operative care. Some of the problems associated with these factors are illustrated in the following series of personal cases either operated upon or seen in consultation.

The Problem of Early Diagnosis

The first problem is to acquaint the pediatrician or the general practitioner with the early signs and symptoms of neonatal surgical problems, and to stress the value of early surgery. The last six consecutive pyloric stenosis cases, as shown in Table 1, show clearly the difference that early diagnosis can make. Four of these cases required no intravenous fluids at all, and all of the infants were out of the hospital in four days, with the exception of a premature of less than five pounds at the time of operation. Obviously the infant who is dehydrated must have adequate preparation with intravenous fluids whenever necessary, but if the physician is alert to the desirability of early operation in an infant with a typical history and a palpable pyloric "olive", the infant should be restored to normal health rapidly and simply. With the early case of hypertrophic pyloric stenosis the pylorus may be smaller and more difficult to palpate. More x-ray studies of the upper gastro-intestinal tract may be necessary for diagnosis in this group, than in a more established group in which the pylorus should be palpable in a high percentage of cases.

TABLE 1

HYPERTROPHIC PYLORIC STENOSIS

Case	Age (weeks)	Duration of Symptoms	Weight (lbs.)	Weight Loss	IV Fluids	X-Ray	Hospital Days
JS	2	3 days	7–4	—3	Yes (x 1)	Yes	3
MK	4	1 day	4–1	—4	No	Yes	16
RB	4	7 days	9–6	—7	No	Yes	3
KS	4	5 days	7–12	—2	Yes (x 1)	No	3
WH	3	7 days	9–12	—4	No	No	5
HH	6	8 days	13–0	—0	No	No	1½

Another problem is to create an awareness and a suspicion in nursery personnel concerning infants with abdominal distension or with vomiting. The value of such suspicion is illustrated by the following case:

This thirty-six hour old full term male was seen because of abdominal distension. Stools of meconium had been passed, but had been scanty. The infant had been noted

Presented at the Annual Meeting of the Virginia Surgical Society, Roanoke, May 21, 1960.

to become distended after feeding. On examination the abdomen was tense, and slight edema of the anterior abdominal wall was noted. X-ray of the abdomen showed a marked pneumoperitoneum. At exploration a perforation of the rectum at the peritoneal reflection was found. Primary closure without drainage or colostomy was performed. The peritoneal reaction appeared minimal. The baby was discharged well on the sixth post-operative day.

The Problem of the Operative Procedure

Basic surgical principles pertain regardless of age, but just as with the very aged in whom a cholecystostomy has value, less common procedures must be dusted off for use in the very young. One such procedure, strongly recommended by Gross[1], is the staged Mikulicz resection, which is illustrated in the following case:

This female infant, weighing 5 pounds and 14 ounces, was seen at twelve hours of age because of abdominal distension. The mother had delivered four weeks early by date, and had been noted to have hydramnios, which Lloyd and Clatworthy[2] have stressed as a suspicious sign of congenital obstruction. The abdominal wall was tense and edematous. On palpation a mass appeared to occupy the right side of the abdomen. X-ray of the abdomen showed evidence of obstruction in the small bowel and a mass occupying the right half of the abdomen.

At exploration the infant was found to have a pre-natal volvulus with gangrene of the distal half of the ileum, the cecum, and a portion of the ascending colon. Perforation had occurred several days or more previously producing a peritonitis. The mass was composed of necrotic bowel which was almost soupy in consistency. The ascending colon, which lay against the mass, was friable and edematous. A Mikulicz ileo-colostomy was performed. The infant rallied well, and began to pass meconium by the ileostomy on the second post-operative day. After a delay of several days the distal segment was irrigated. On the seventh post-operative day an anastomosis was performed. Because of probable edema at the suture line, the infant did not stool for five days. The infant's weight fell to four pounds. After this delay stools were passed, and the infant began to take feedings well. The baby is now six months old and weighs seventeen pounds.

The Problem of Anesthesia

The duration and depth of anesthesia is very important in the newborn. The operation should be completed as rapidly as possible, and optimal relaxation should not be expected at all times. The insertion of a gastric tube of adequate size pre-operatively is very important in preventing aspiration and its attendant complications.

Intra-tracheal anesthesia is not necessary in every case simply because of the size of the infant. Pyloromyotomies, herniorrhaphies, and similar cases can be done very well without an intra-tracheal tube. Difficulty with intubation can be more dangerous than the operation by the surgeon.

The Problem of Fluid Therapy

Improper fluid therapy is a great danger to the newborn because of renal immaturity and the small fluid volumes present. Overhydration can be an important contributory factor to death. The problem of what to give should be solved in the light of both the pediatric and the surgical factors influencing fluid balance. Too often the pediatrician may be as unaware of the losses into the distended bowel as is the surgeon of the normal demands and requirements of a six pound newborn. The void must be filled from one side or the other, because the proper management of a surgical newborn requires knowledge of the total scope of the problem just as the treatment of a massive gastrointestinal hemorrhage in an aged cardiac. Fluids should be ordered every six to eight hours with frequent evaluation of

the infant's clinical signs. The weight is also an important measure of adequacy.

The greater problem is often not what, but how. An aid in starting intravenous fluids in infants is to use a syringe filled with saline, and to check to see if the needle is in the vein by the injection of saline, rather than trying to aspirate back a dozen or less corpuscles from a little scalp vessel. Small fragile vessels are often cut by the needle when pulled against the point by the negative pressure. Cut-downs should be performed with complete surgical technique, and should be used only when necessary.

The Problem of Infection

Infection is a contributory or indirect cause of death in 68% of infants dying from an underlying abnormality.[3] It has been pointed out[4] that the newborn stands infection less well than the older child, and that in this period signs and symptoms of sepsis are often lacking. Table 2 lists some of the neonatal infections which have been encountered along with the causative organism. Our chief problem has arisen with the staphylococcus and the colon group.

The question arises as to the proper use of antibiotics in neonatal surgery. In clean cases it has been pointed out that respiratory complications are not diminished by the prophylactic administration of antibiotics.[5] Where intestinal contamination has been presented, penicillin and streptomycin have been used to counteract infection. Chloramphenicol may prove more satisfactory, but it is important to remember the necessity for limitation of dosage in the premature to 25 mgm/Kg/24 hours and in the newborn to 50 mgm/Kg/24 hours, given every twelve to twenty-four hours.[6]

Strict adherence to isolation and sterile techniques in nurseries is also important in minimizing staphylococcal infections. The umbilicus has also been shown to be a frequent source of infection[7] and should be amputated prior to surgery if any remnant remains.

The Problem of Post-Operative Obstruction

Following gastrointestinal surgery in the newborn or young infant, one particularly difficult problem is the infant who vomits post-operatively, and in whom the question of ileus or mechanical obstruction arises. Table 3 shows a group of five cases in which this differential existed. Several observations have been made from this group of cases.

TABLE 2

Post-operative Infections

Age	Operation	Symptoms	Cultures
NB	None—omphalitis	2 days	Staph. aureus
NB	Ladd procedure	2 days	Aerobacter aerogenes
NB	Anoplasty, perineal	8 days	Aerobacter aerogenes E. Coli
2 wks.	Mikulicz—2nd stage	4 days	Aerobacter aerogenes Staph. aureus
2 mos.*	Inguinal hernia	12 hours	Staph. aureus

*Premature infant.

In the prevention of ileus drainage tubes should not be removed too early, as, for example, when only one stool is passed by the infant. Where an anastomosis has been done or a prolonged abdominal procedure was necessary, it is probably better to wait at least twenty-four to forty-eight hours, and to have clear gastric drainage before attempting oral feedings. Potts[8] has pointed out that gastric tubes in infants should be removed and not clamped before feeding is begun. Infants feed poorly if the tube re-

TABLE 3

Post-operative Intestinal Obstruction or Ileus

Operation	Cause of Obstruction	Symptoms Began	Operation or Symptoms Cleared
Combined anoplasty	Internal hernia*	PO 2	PO 7
	Ileus		PO 4 (11)
Pyloromyotomy	Ileal band	PO 1	PO 3
Biliary exploration	Adhesive band	PO 3	PO 4
Inguinal hernia	Ileus (staph.)	PO 1	PO 2
Mikulicz (2nd stage)	Anastomotic edema	PO 2	PO 5

*Paraduodenal hernia.

mains. The passage of gas, as contrasted with liquid or mucoid stool, is quite encouraging as a sign of normal intestinal function. While ileus does occur in the neonatal group, its presence without some cause, such as infection, is less common and mechanical obstruction should always be suspected.

In the presence of mechanical obstruction the reaction of the infant to attempts at feeding was quite impressive. Early in the course of obstruction two infants began to gag on feedings and to appear disinterested and nauseated. The absence of gas by rectum and bilious vomiting are also important signs. On examination distention is usually present, but may vary. The bowel sounds have often been deceptive. Enlarged and edematous loops of bowel can be palpated through the thin abdominal wall, and are important as a sign of obstruction.

The x-ray proves an invaluable help. Storch[9] has pointed out some of the features of mechanical obstruction in infants, squaring off, increased blackening, continuity of the bowel, hairpin turns, and progressive distension.

In the treatment of ileus, Gross[1] states that pitressin and prostigmine should not be used, and it appears that the bowel cannot be rushed. A rectal tube is of very little value in infants. Irrigation of the colon with a catheter and saline, particularly where the colon is small from congenital obstruction, can be very helpful.

As Wilson[10] has pointed out, many early post-operative obstructions may respond to conservative therapy, but exploration should not be delayed beyond a period of fair trial. It would seem that with the limited reserve of the small infant, treatment of mechanical obstruction should not exceed twelve to twenty-four hours conservative management except for obstruction due to edema at an anastomosis.

Summary

Some of the problems arising in the care of neonatal surgical cases have been presented, and some observations made in the light of a limited series of cases. The importance of attention to the many details involved in surgery in this age group has been stressed.

Bibliography

1. Gross, R. E.: The Surgery of Infancy and Childhood. W. B. Saunders Co., Philadelphia, 1953.
2. Lloyd, J. R. and Clatworthy, H. W.: Hydramnios as an Aid to the Early Diagnosis of Congenital Obstruction of the Alimentary Tract. Pediatrics 21: 903-909, 1958.
3. Nelson, W. E.: On the Role of Infections in Neonatal Mortality. J. Pediat. 56: 274-284, 1960.
4. Nyhan, W. L. and Fousek, M.D.: Septicemia of the Newborn. Pediatrics 22: 268-278, 1958.
5. Hodes, H. L.: Antibiotic Prophylaxis. Pediatrics 24: 126-131, 1959.
6. Weiss, C. F., Glazko, A. J., And Weston, J. K.: Chloramphenicol in the Newborn Infant. New England J. Med. 262: 787-794, 1960.

7. Sieber, W. K. and Ferguson, A. B. Jr.: Surgical and Orthopedic Aspects of Infection in Newly Born and Young Infants. Pediatrics 24: 145-152, 1959.
8. Potts, W. J.: The Surgeon and the Child. W. B. Saunders Co., Philadelphia. 1959.
9. Storch, C., Redner, B., and Turin, R. D.: Small Bowel Obstruction in Infancy and Childhood J. Pediat. 35: 366-372, 1949.
10. Wilson, H.: Intestinal Obstruction in Infants and Children. South. M. J. 50: 1288-1293, 1957.

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Ultrasonic Waves in Ear Ailment

Treatment of the chronic ear ailment known as Meniere's disease with ultrasonic waves has produced satisfactory results. Ultrasound probably will replace currently used surgical methods in many persons because, unlike these procedures, ultrasound does not cause any hearing loss, Dr. Franz Altmann, New York City, said in the April 22nd Journal of the American Medical Association.

The disease, usually caused by a malfunction of the inner ear, is characterized by fluctuating hearing ability, noises in the ear, and vertigo, the sensation that the world outside oneself is spinning around.

Results obtained in 60 patients treated with ultrasonic waves were "quite satisfactory". Attacks of vertigo were eventually completely eliminated in about 80 per cent of the cases. However, in some instances, the treatment had to be repeated because of a recurrence.

In the majority of persons this disease can be controlled with drugs. Until recently, when drugs failed, the primary method of eliminating vertigo had been destruction of the inner ear by surgical techniques, with resultant loss of hearing. By use of ultrasonic waves, destruction of the inner ear can be achieved while the hearing remains unchanged and continues to fluctuate or might even get slightly better. The noise in the ear often becomes less intense, but, as in surgical destruction of the inner ear, it disappears in only a few cases.

Ultrasonic waves are sound waves of such high frequency they are inaudible to the human ear. In the treatment of Meniere's disease a special applicator is placed on the long lateral semicircular canal, which is exposed through an operation in the mastoid area behind the ear. This is done to prevent absorption of the sound waves by air on intervening matter.

Dr. Altmann is associated with the department of otolaryngology, Columbia University, College of Physicians and Surgeons.

Intimal Hemorrhage, a Form of Spontaneous Hemorrhage

Its Relation to Atherosclerosis and Coronary Occlusion

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The theory is advanced that intimal hemorrhage as well as spontaneous hemorrhage elsewhere is hormonal in origin. Atherosclerosis and vascular accidents in cerebral, coronary, and other arteries are thought to be a result of these intimal hemorrhages. Estrogen therapy should prevent this vascular damage.

THE CURRENT ATTITUDE toward intimal hemorrhage presents a curious paradox. Here is a lesion that has been recognized for a hundred years and one that is not only familiar to pathologists but would be reported more often if its import were acknowledged. These hemorrhages are frequently encountered by vascular surgeons during resections of obstructed arterial segments. They are just as subtle and malign as cancer and probably have a higher morbidity and mortality since they are almost a constant concomitant and the chief destructive agent in non-infectious cardiovascular disease. Yet this common and ubiquitous lesion is ignored by clinicians and seldom mentioned in texts, discussions or symposia.

Little attention has been given to intimal hemorrhage probably because it was thought to be incidental to the presence of atheromatous plaques or secondary to a medial necrotic process. The purpose of this discussion is to advance the theory that this lesion is a form of Spontaneous Hemorrhage occurring in the walls of arteries and therefore the primary process itself. Atherosclerosis, arterial occlusion, medial necrosis and the creation and rupture of aneurysms such as the berry and other peripheral aneurysms as well as the dissecting variety will be considered to be the result of a hormonal imbalance which instigates disintegration of the ground substance and intimal hemorrhage as the initial steps in the development of these lesions.

Historical Note

Rokitansky first described intimal bleeding in 1846. Since then its study has been characterized by efforts to emphasize its importance as well as to minimize its effects. An editorial from the British Medical Journal[1] summarizes this history:

> Intimal haemorrhage has long been recognized as an occasional feature of atherosclerosis, but credit for the recognition of its importance goes to J. C. Paterson. In 1936 he recorded its occurrence in nine consecutive cases of coronary thrombosis and suggested that it was the factor responsible for the thrombosis. In this and a subsequent communication he showed that the haemorrhages arose from rupture of capillaries which were present in atherosclerotic plaques, and he stressed the point that some of these capillaries were in direct communication with the lumina of the affected arteries and might therefore be exposed to an especially high blood pressure.
>
> The presence of vascular channels in atherosclerotic plaques, especially of the aorta, has been known since the middle of the last century, but the

first detailed account was supplied by M. C. Winternitz, R. M. Thomas, and P. M. LeCompte in their monograph published in 1938. They demonstrated that the atherosclerotic intima was permeated by vascular channels both from the lumen of the artery and from the vasa vasorum, and they regarded this as a factor in the development of atherosclerosis. They showed that haemorrhage frequently occurred from these vessels, and they made the important suggestion that much of the fatty debris in the atheromatous foci was the product of degeneration of the extravasated blood. This was a bold departure from the current belief.

Other workers have since studied intimal haemorrhage but have differed on its importance. W. B. Wartman, H. Horn and L. E. Finkelstein, and M. G. Nelson considered that it was a significantly frequent feature of fatal coronary disease, Wartman believing it to be the main factor in coronary occlusion, since by increasing the thickness of the intima it constricted the lumen of the artery. Paul Wood, on the other hand, was inclined to doubt its frequency, while J. P. English and F. A. Willius, and more recently R. A. B. Drury, admitted its frequency but regarded it as of secondary importance. Nevertheless, there has in recent years been a growing appreciation of its significance not only in coronary disease but in atherosclerosis in general.

In 1946 and 1948 J. B. Duguid showed that some of the intimal thickenings which had hitherto been interpreted as overgrowths of connective tissues were in reality organized mural thrombi. He also noted that in the process of organization such thrombi were sometimes invaded by capillaries both from the lumen of the artery and from the vasa vasorum, and that these vessels, remaining long after the organization was completed, accounted for much of the vascularization of the intima. His observations were confirmed by E. Geiringer and N. G. B. McLetchie, both of whom emphasized that capillaries connecting with the lumen were characteristic of mural thrombi. Similar evidence has lately been produced by J. H. Dible. A. D. Morgan has confirmed these findings, together with the findings of Paterson on intimal haemorrhage. He showed that many of the capillaries in the atheromatous plaques passed into the softened areas, and, being poorly supported, were prone to rupture; like Winternitz and his colleagues, Morgan believed that when this occurred the extravasated blood was converted into atheromatous debris.

Fig. 1. Hemorrhage into the wall of a coronary artery. The lumen is not affected. (Courtesy J. C. Paterson).

Somewhat later Duguid and W. B. Robertson, reviving the mechanical theories of the older writers, suggested that intimal haemorrhages were the result of the functional movements of arteries. In atherosclerosis, according to them, the stiffened intima, being unable to participate with the rest of the tissues in the pulse movements of expansion

and recoil, becomes loosened and partially torn away from the media. Intimal vessels are liable to be torn, and these workers considered that haemorrhage as a result of this was common. Like Morgan they also believed that the repeated extravasation of blood accounted for much of the atheromatous change.

In the last few years Paterson and his co-workers have with improved techniques reverted to the problem of intimal haemorrhages. They were able to show that unsuspected intimal haemorrhage could be brought to light by the Prussian-blue reaction applied to gross segments of unfixed arteries. By this method haemosiderin was seen to be plentiful, even in early atherosclerotic lesions. Using the alkaline phosphatase technique for the staining of endothelium, they demonstrated that capillaries were present in hitherto unsuspected numbers in early lesions, and they implied that vascularization was a fundamental factor in the disease process.

Now these workers, using a special clearing technique described by Moffatt, have shown that the incidence of intimal haemorrhages in the aorta is greater in hypertensive patients than in others; and again they have invoked the factor of high blood pressure in capillaries connecting with the lumen of the artery to explain it. They mention other factors, it is true, such as defective support of tissues and capillary fragility, but no reference is made to the increased pulse movements which, as Duguid and Robertson suggested, must come into play in hypertension. The high pulse pressure in this condition must increase the range of the pulse movements, and all the strains and tearing forces to which the artery walls are subjected must be accentuated. It is not surprising, therefore, that, when there are delicate capillaries in the intima, haemorrhages should result.

Fig. 2. The hemorrhage a few mm. further down the same artery. Note that it is encroaching upon the lumen which has been crowded into small folds that could be the focus for a thrombus. The hemorrhage is actually a small dissecting aneurysm. The reaction of the arterial wall determines if it will be replaced by atheromatous material, initiate a thrombus or weaken the wall until it dilates into the true aneurysms found most frequently in the cerebral vessels. Sometimes more than one of these processes, along with collagen degeneration, will be in operation. The final characteristics of the lesion will be determined by the proportionate effects of each one. (Courtesy J. C. Paterson)

Paterson and his colleagues also believe that the haemorrhages contribute to the accumulation of lipids, so that they regard haemorrhage not only as the factor promoting terminal coronary thrombosis but also as an accelerating factor in artherosclerosis itself. They remark that "if the extravasated blood contains a high concentration of lipid, more lipid should be deposited than when the serum lipid levels are low," which goes a long way in supporting Aschoff's contention that "the lipoid concentration of the food does not cause atheroma, but essentially influences the character of the atheromatous patches by determining the presence or absence of fatty change.

The Vascularization Process

Paterson's[2] epochal discovery of the vascularization process in 1936 dispelled the notion that intramural hemorrhage was a haphazard affair and probably only bleeding incidental to the presence of atheromatous plaques; and it opened up new and far-reaching horizons into the nature of cardiovascular disease which are not as yet fully appreciated. He demonstrated that intimal hemorrhage came from a source that required considerable time for its preparation. This source is a focal proliferation of capillaries of which one or more will rupture and thus create a hematoma in the vessel wall. Regardless of its size, and it can be of any dimension, this hematoma is an irritant and constitutes a definite injury. The reactions to this trauma are the basis for the wide variety of phenomena which occurs in cardiovascular disease.

Paterson and other investigators[3-8] also demonstrated that atherosclerosis may not be the primary disease and instead may be secondary to intramural bleeding. They showed that hemosiderin, one of the remains of a hematoma, can be found in the earliest of atheromatous plaques and even may precede them, and that their foundation can be established in infancy. Furthermore, Morgan furnished evidence that atherosclerosis is not a steadily progressive disease, but instead advances by episodes of intramural bleeding with duplication and fragmentation of the elastica, piling layer upon layer. During the intervals between these episodes the reaction of the arterial wall takes place. The development of the disease depends upon the nature of this reaction. One reason for the conclusion that intimal hemorrhage may be a form of spontaneous hemorrhage is the episodic character of intimal bleeding which Morgan clearly demonstrated.

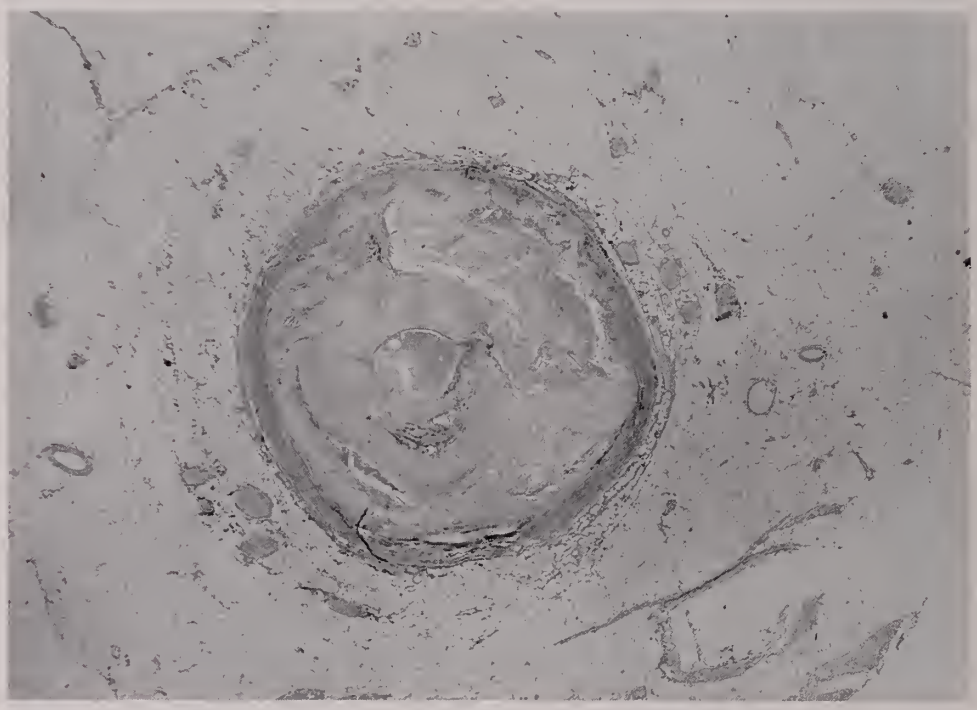

Fig. 3. Vascularization, hemorrhage and recanalization of a coronary artery. Vascularization processes are at 6 and 11 o'clock and hemorrhage into the intima is between 7 and 8 o'clock. Recanalization of the lumen surrounded by an organized thrombus occupies the center and is lined with elastica. Atheromatous "mush" and calcification is between 11 and 3 o'clock. (A.F.I.P. #690-119).

Bleeding from the capillaries in arterial walls leads not only to their obstruction, destruction and the formation of aneurysms but also may have another major effect ac-

cording to Paterson. This effect is spasm of the arterial muscular structure with sufficient force to temporarily obstruct the lumen. Widespread nerve reflexes can be abruptly stimulated with the initiation of vasomotor collapse and sudden death. Durlacher's[9] findings in this respect are impressive. He has used a special clearing technic on the coronary arteries of individuals who died suddenly and found that fresh intramural hemorrhages are almost invariably present in cases with coronary atherosclerosis while they are absent in individuals who die from extracardiac causes.

It is obvious that a disease involving the whole arterial system can affect the circulation in so many ways that the ensuing syndromes cannot have constant patterns. These syndromes may be comparatively simple as, for example, the occlusion of a major vessel to an extremity. It is equally obvious that occlusion or partial occlusion of the numerous small branches of the arteries to and in the cerebral circulation and the neck will create patterns which are extremely variable, bizarre and complex in their manifestations. Some of these can be so transient they have been called "small strokes".

Wartman[10] emphasized the importance and clinical results of intimal bleeding, described the capillaries of the vascularization process and then advanced 9 reasons why they might rupture. Apparently he was not completely satisfied with these explanations. He says:

> The possible relationship of the haemorrhage to the formation of atheromatous plaques deserves more than passing mention. It has been suggested that the atheromatous material in the plaques consists largely of old blood and the products which result from its breakdown, and that eventually these substances are phagocytosed so that there is an accumulation of macrophages in the area. While it is difficult to prove this theory, nevertheless lesions are seen which strongly suggest a transition from well-preserved erythrocytes to

Fig. 4. Hemorrhage into a plaque in the circle of Willis. This 55 year old man underwent cholecystectomy but, although the convalescence was uneventful, died suddenly on the 6th day after operation, the usual interval before vascular complications of operations, i.e. pulmonary embolism, delayed hemorrhage, etc., take place. Embolism or cerebral hemorrhage was suspected but at autopsy the only positive finding was moderate sclerosis of the circle of Willis. The vascular spasm caused by the hemorrhage is believed to be the cause of death. If these sections had not been made, the death would have been unexplained.

atheromatous material. This aspect of the problem needs further study, for it is of importance to know whether bleeding occurs first and the atheromatous plaque results from decomposition of the blood, or whether the atheromatous plaque precedes the bleeding.

The finding of pigment and other evidences of age in some of the haematomata has been mentioned before. Not uncommonly the same section of the artery will contain both new and old haemorrhages. This observation probably has clinical significance. Such findings can only mean that the patient must have suffered repeated bouts of intimal bleeding during life. It is likely that some of these may have occurred without giving rise to clinical manifestations, but it is also possible that they may have caused transient symptoms of sufficient severity to make the patient aware of them. Thus it seems possible that repeated haemorrhage may afford an anatomical basis for some of the temporary attacks of cardiac, cerebral, renal, and peripheral vascular ischaemia, such as angina pectoris, hemiparesis, periodic hypertension, and intermittent claudication, which are frequently attributed to angiospasm. Undoubtedly other factors may cause these same manifestations, but intimal haemorrhage seems to be a possibility which has not heretofore been given sufficient recognition.

It now seems well established that the bleeding is due to rupture of capillaries in the intima or media of the diseased artery. Invariably the intima is richly supplied with capillaries in the immediate neighbourhood of the haemorrhage and it can be shown that the bleeding results from rupture of these vessels. Abnormal vascularization occurs not only in arteriosclerosis but in syphilis and other diseases as well. The evidence indicates that the arterial wall reacts to injury in the same fashion as the other tissues of the body. Vascularization is a recognized occurrence in the organization of most inflamed tissues regardless of the initial stimulus, and it is not really remarkable that we should find the same events occurring in a diseased artery.

Not only is the diseased intima vascularized, but the capillaries themselves are abnormal. In the first place they have extremely thin walls which consist in many instances of a single layer of elongated and stretched cells utterly without supporting reticular adventitia. Commonly they are found in areas of atheromatous softening in which there is little or no supporting fibrous connective tissue. In the second place the capillaries are often ectasic, forming large engorged varices. In the third place the capillaries seem unusually liable to rupture. We have already seen that such rupture may cause massive haemorrhage in the arterial wall. In other instances the bleeding is on a smaller scale and the capillary may weep small amounts of blood from time to time, and lastly thrombosis may take place in the capillaries. Most

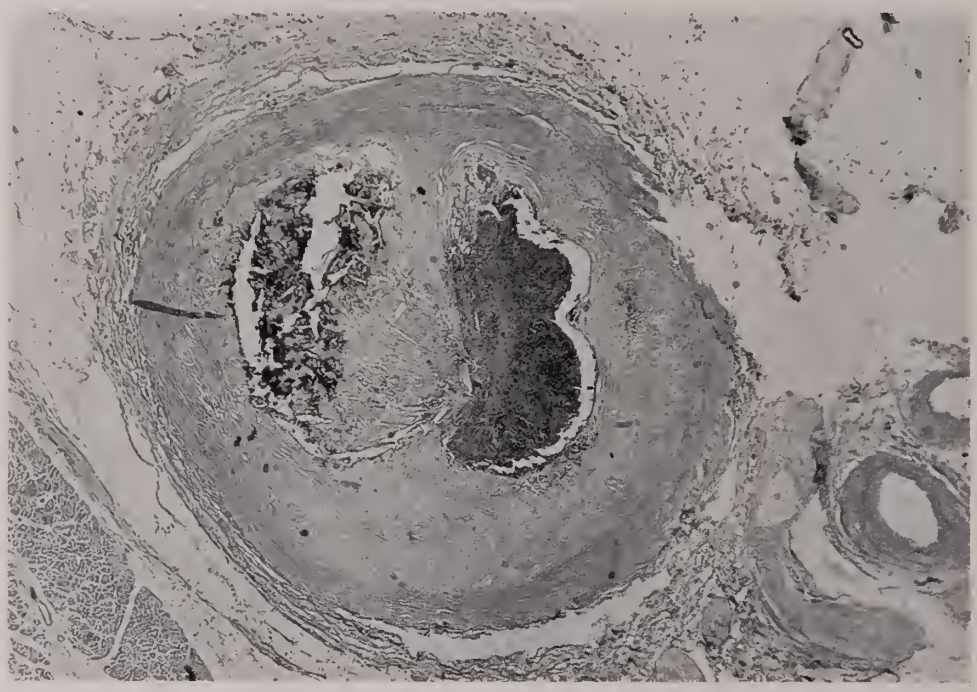

Fig. 5. Hemorrhage and thrombosis at the same level in a coronary artery. The ensuing infarct caused a rupture of the right ventricle and instant death.

times this is probably of little significance but, rarely, retrograde thrombosis occurs with extension into the lumen of the affected artery and formation of a nidus for the development of a thrombus in the main vessel.

The question may be asked why these capillaries rupture. This property of the capillaries in arteriosclerosis is unusual for ordinary capillaries, even in inflamed tissues, do not rupture. At present it is impossible to give the final answer to this question.

The occurrence of hemorrhage and the prevalence of atheromatous plaques in certain specified areas, such as the basilar and coronary arteries, and at bifurcations and the orifices of branching vessels, have been connected with physical forces, principally the mechanics involved in the movement of vessels which can rupture these delicate capillaries and the dynamics of curvilinear flow. Undoubtedly these forces, of which one of the most clearly visible is the pulsation of the cerebral arteries as these are straightened under the impact of each systole, must play a part; but the fact that they are not increased in vessels adjacent to joints indicates their role must be a minor one. The flexing of arteries and changes in turbulence are much greater there than anywhere else, even in the neck and certainly in the brain, yet atheromatous deposition and arterial damage are no more frequent around joints than in vessels which are subjected to little or no movement.

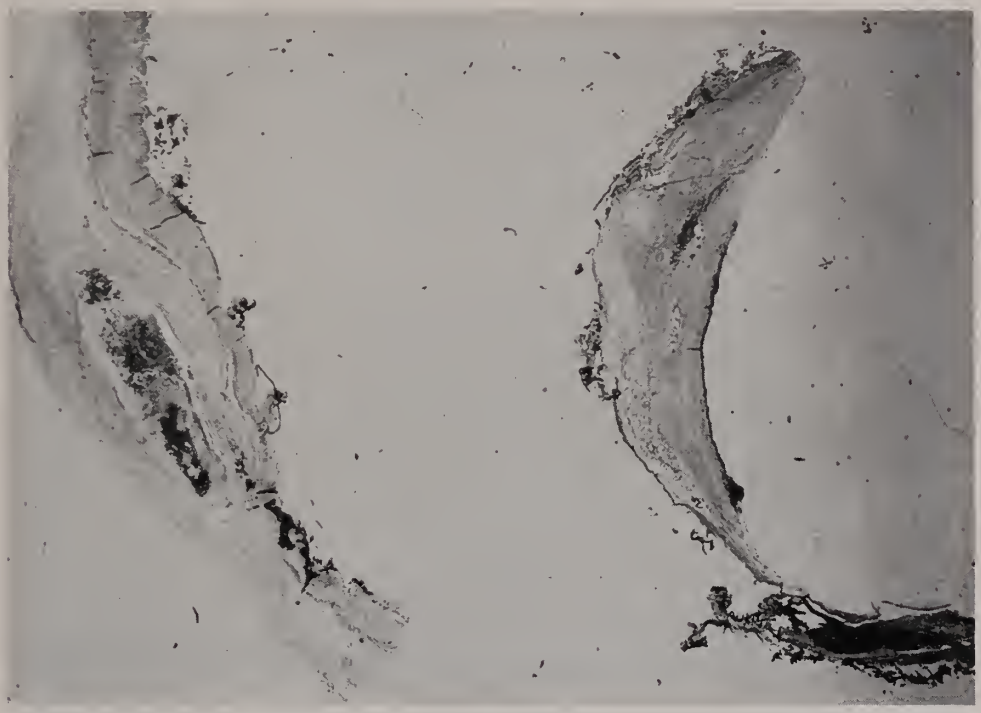

Fig. 6. Sections taken several inches apart from a femoral artery showing hemorrhages of different ages in the wall. Deep seated capillaries are at the edges of the hematomas. (Courtesy J. C. Paterson).

Intimal Hemorrhage and Atherosclorosis

The popular belief today is that atherosclerosis and its sequelae, including intimal hemorrhage, are the result of abnormalities in the lipid metabolism. But that is not the view held by many investigators who have made important contributions on this subject, for they point out that while atherosclerosis with diminution in the caliber of the arterial lumen is compatible with long life and has not been increasing, deaths from coronary occlusion have been multiplying by leaps and bounds.

Thus Morgan,[11] in his brilliant and convincing study of the pathogenesis of coronary occlusion, says among his conclusions:

Many a seeker after the cause of atherosclerosis has touched some facet of the truth and mistaken

it for the whole. It has been variously claimed at one time or another that atherosclerosis is due exclusively to cholesterol, to haemorrhage, to thrombosis, to chylomicrons, to physiological ageing, to mucoid degeneration and to a whole series of anomalies of lipid metabolism. Some, observing one attribute, have proffered a new definition of atherosclerosis in terms of that attribute.

The truth is that atherosclerosis is each and all of these things and many more, some of them no doubt still to be discovered. It is that tendency to thinking of "fatty infiltration", "atheroma" and "arteriosclerosis" as aetiological entities rather than makeshift descriptive terms, that leads to error and retards advances. Indeed, the evidence suggests that we may be wrong in regarding atherosclerosis as a specific disease rather than a nonspecific reaction by the artery wall to a variety of noxious stimuli. There is a limited number of ways in which an organ or a tissue may alter morphologically, and it may be that atherosclerosis is one type of reaction to a variety of insults. The fact that a similar reaction can be provoked experimentally by this or that particular agency in no way contradicts this surmise.

The wonder is that the arterial system retains its integrity as long as it does. Day and night it must withstand a hydrostatic pressure that no other tissues are subjected to; year in, year out, aided or hindered by the force of gravity, it must convey by devious routes a fluid with great clotting propensities and a high particulate quota, without extravasation into its own walls or the surrounding tissues. There is every reason to expect the effects of over-stretching or thrombosis, with no great facilities for repair, and it would be remarkable, indeed, if the adult artery showed no evidence of wear and tear, quite apart from what is implied by the term "stress".

It has been and still is taken for granted that coronary occlusion, whether lipid, fibrous, haemorrhagic or thombotic in type, is the end result of slowly accumulative atherosclerosis. The reason for this belief is clear enough, since the lipid, fibrous and haemorrhagic elements are all part of what is called atherosclerosis, and atherosclerosis is known to predispose to thrombosis. Yet there are glaring anomalies. Coronary atheroma (if the London Hospital records are a reliable criterion) has not increased in half a century, but coronary occlusion certainly has. Moreover, vessels of comparable dimensions, such as the basilar artery, show the lesser grades of atherosclerosis with great frequency, especially in elderly subjects, yet gross stenosis or thrombosis are relatively uncommon in such arteries. Lastly, one

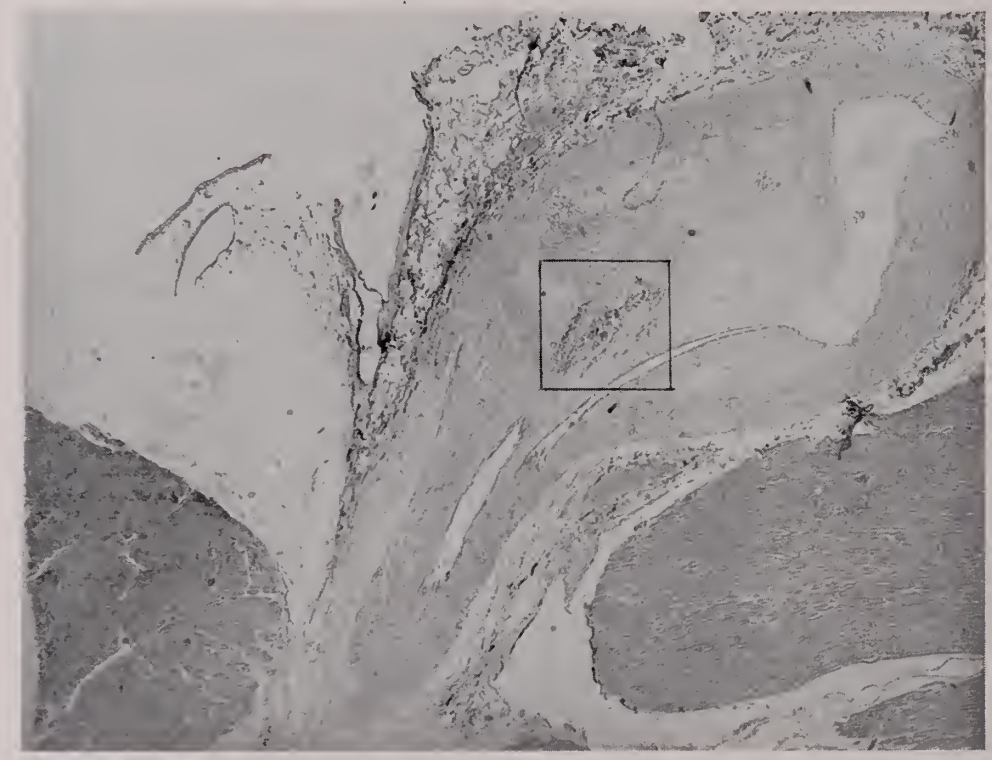

Fig. 7. A vascularization process in the wall of a coronary artery. The lumen has been narrowed by an atheroma.

coronary segment frequently reveals occlusion of a severity quite disproportionate to the atherosclerosis in the aorta or the rest of the coronary tree.

As regards the feeding experiments, it is clear that atherosclerosis in rabbits can be produced simply by saturating the reticulo-endothelial system with cholesterol, although contributory factors may accelerate or accentuate the process. There is no evidence that this is the case in man, and a great deal of evidence to the contrary. Finally, the role of hypercholesterolaemia is clearly contributory in the case of diabetes, xanthomatosis, etc.; while in the aged the gradual increase in serum cholesterol need be no more a determining factor in atherosclerosis than the age effects on the arterial wall, merely tending to increase the cholesterol content of the plaques. It is certainly beyond dispute that typical atherosclerosis may exist in individuals with a normal serum cholesterol. The arguments applied to hypercholesterolaemia are equally valid for other forms of disturbance of lipid chemistry.

Vascularization of the plaque is an important factor in the vicious cycle. It is certainly the cause of the smaller haemorrhages, and whether or not these play a part in initiating thrombosis, and I believe they do, they are an undoubted source of cholesterol, apart from contributing a good deal of the non-lipid mush that goes to make an atheromatous abscess, the thrombogenic properties of which are not denied.

In this way many apparently conflicting theories can be reconciled, from Jores, Klotz and Aschoff to Leary, Paterson and Duguid. Atherosclerosis is then seen to be result of multiple factors, and the resultant plaques the product of numerous and diverse processes. Underlying all of them is the modification of the vessel wall in response to physiological strain and the accumulated effects of age on the tissues.

The popular notion that coronary thrombosis is due to atherosclerosis is disputed by Robertson[12] who agrees with Morgan. Robertson says:

Fig. 8. Low power magnification of the vascularization process in Fig. 7. The narrowed lumen of the artery is at the top. Note that the capillaries are distended.

Comparison of the deaths from atherosclerotic arteries with those from coronary thrombosis reveals there is no relation between them; hence, the two are unlikely to have the same cause. In etiological studies, the two conditions seem to be clearly distinguished. Since advanced atherosclerosis is compatible with health and long life, investigation of the cause of coronary thrombosis is of more immediate concern.

Robertson then advances a further argument that coronary thrombosis and atherosclerosis are separate diseases:

We appear then to be confronted by two separate,

though possibly related diseases—chronic atheromatous degeneration and acute coronary thrombosis. The fact that the latter is seldom seen in the absence of the former need not imply a common etiology; and one is bound to ask why, of two individuals (or populations) with atherosclerosis one dies of coronary thrombosis and the other does not. . . . From the data accumulated in Jamaica and New Orleans, it would seem that Negroes are as liable as whites to develop severe aortic atherosclerosis but preserve a fortunate freedom from ischemic heart disease.

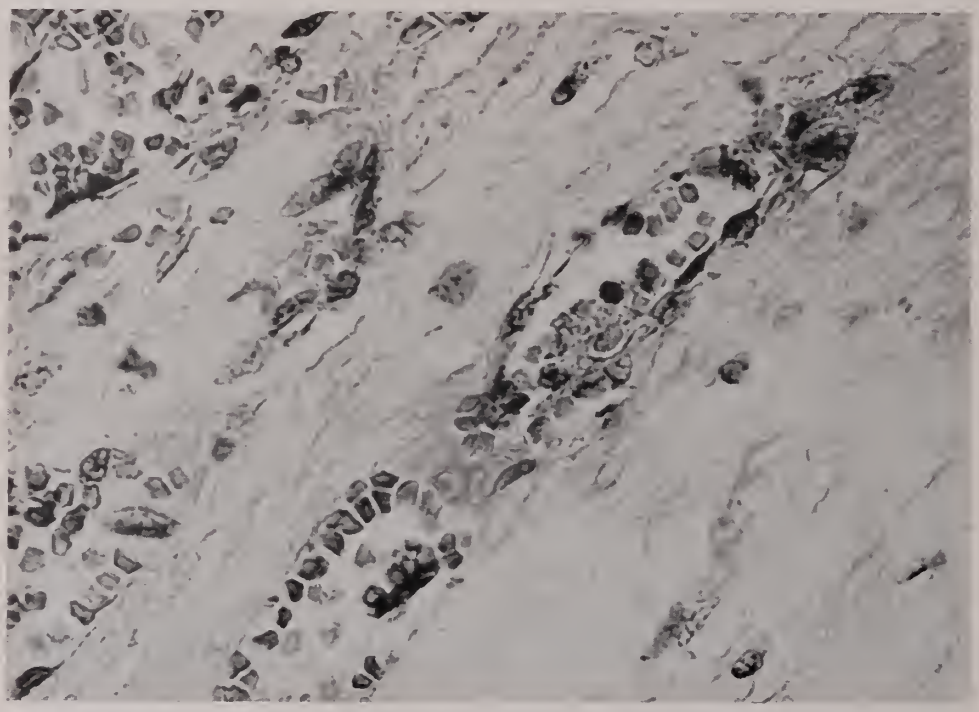

Fig. 9. Higher magnification of Fig. 7. The peculiarities of there capillaries as described by Wartman, including ectasia and engorgement, are clearly shown (see text).

Perhaps the degree and frequency of intramural hemorrhage may be the difference between two aspects of what may still be one disease.

There are many conditions which, without any abnormalities of the blood as far as these are known now, have hemorrhage as a common factor or as a complication. Among them are epistaxis, cerebral, intraocular and subconjunctival bleeding, gastrointestinal bleeding from various sources, so-called idiopathic genito-urinary bleeding, the pulmonary hemorrhages of tuberculosis and idiopathic bronchial bleeding and many others which are considered to be and are treated as separate diseases. I have advanced the theory that they may instead be a single disease with infinite manifestations depending upon where it strikes. The plane between the intima and the media can very well be one of these locations and it is just as vulnerable to bleeding as any of the other numerous sites from which spontaneous hemorrhage occurs. Regardless of which comes first, the hemorrhage or the plaque, bleeding is a factor to be reckoned with in the vicious cycle which includes both.

Therapy of Intimal Hemorrhage

On numerous occasions I have said that spontaneous bleeding, wherever it occurs, is endocrine in origin and therefore the treatment should be hormonal. I do not consider intimal hemorrhage to be an exception. The ability or the means to evaluate such therapy is quite another matter as there are no standards or measurements that are applicable and the only resource is clinical observation. The effectiveness of this therapy on spontaneous bleeding into open spaces, such as epistaxis or gastrointestinal hemorrhage, is difficult enough to judge because

so many of these hemorrhages stop by themselves without any treatment. In these hemorrhages also there are no standards or measurements that can be applied. Furthermore, spontaneous bleeding of any kind cannot be reproduced in the lower vertebrates except by powerful toxins, and in experimental atherosclerosis intimal bleeding is almost nonexistent. The mechanism of spontaneous bleeding anywhere is unknown.

The principal objective of therapy is to interrupt the vicious cycle between intimal bleeding and the deposition of atheromatous material. Presumably an attack on either one should be beneficial. The hemorrhages are completely ignored now and the attack seems to be directed at preventing the deposition of lipoproteins by reducing the serum lipoproteins either through medication or diet. Both of these methods have met with some success but the inherent unpalatability and difficulties of enforcing these diets and the side effects of the large doses of estrogen or other agents required preclude the use of either of these measures. There are so many variables in the lipoprotein metabolism, not the least of which is stress, that it would seem more reasonable to attack the problem of atherosclerosis through prevention or arrest of intimal bleeding with diet as an accessory.

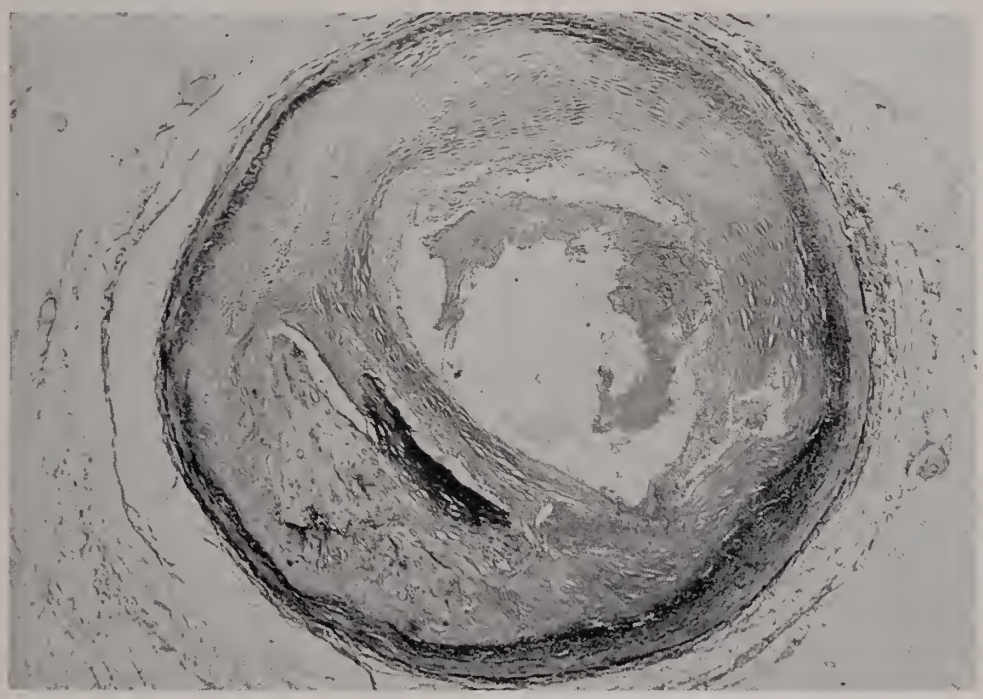

Fig. 10. Coronary thrombosis with hemorrhage into the arterial wall. This patient, a 45 year old man, died 1½ hours after the onset of his illness. The thrombus fragmented during the staining process. The vascularization process and hemorrhage are at 6 o'clock just to the right of the darkly stained collagen.

Role of Estrogen

There can hardly be much doubt now that the estrogen metabolism is intimately connected with atherosclerosis and its role may indeed be the prevention or the diminution of these hemorrhages. While it does not necessarily follow that the protective factor in the female's relative immunity to coronary disease during the childbearing years is estrogen, evidence is accumulating which definitely points in that direction. Certainly mortality statistics clearly show two facts: the much greater incidence of coronary deaths in males and the increased incidence of coronary deaths in the postmenopausal female. James[13] and his group showed that only 11 of 146 female patients with coro-

nary attacks were still menstruating and of these 11, 10 had a predisposing disease state. Oliver and Boyd[14] pointed out that ovariectomy predisposed to coronary disease through observations made after 36 bilateral and 31 unilateral ovariectomies. The operations had been performed 20 or more years previously, when the women were 35 years of age or less. Manifestations of coronary artery disease were noted in 9 of the 36 women who had had bilateral ovariectomies and in only one of the 31 women who had unilateral ovariectomies. Furthermore, serum lipid levels were higher after the more extensive operation.

Two interesting studies reveal a definite relationship between estrogen and atherosclerosis. Wuest[15] and his associates analyzed the degree of coronary atherosclerosis in hearts obtained from bilaterally oophorectomized women as compared with the degree of sclerosis in 600 hearts from women and 600 hearts from men of comparable ages. They found that bilateral oophorectomy performed during the reproductive era advanced the calendar for these patients by 20 years, and that by age 50 the degree of coronary atherosclerosis was comparable to that found in the control group only after the latter had passed the 70th year. These authors concluded that their study tends to support the evidence for a relationship between estrogens and the lipid metabolism.

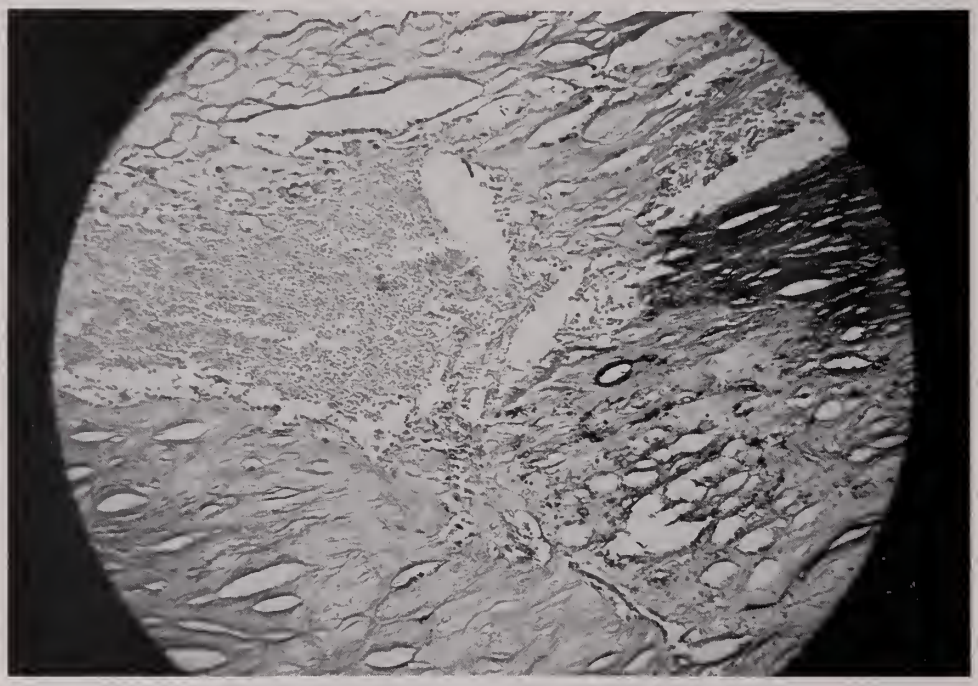

Fig. 11. Higher magnification of Fig. 10. The vascularization process and hemorrhage are just to the left of the darkly stained collagen. At 5 o'clock a straight capillary, part of the vascularization process, points to the rest of this process and the cone shaped hemorrhage consisting of fresh unorganized blood streaming out into the intima. While intimal hemorrhage is common enough and easy to find, sections such as this one with the actual bleeding point are seldom seen by pathologists because finding this lesion with the hemorrhage in progress depends upon chance. Investigators rely almost entirely upon serial sections with a variety of stains. Although tedious, this procedure will almost always reveal a hemorrhage in at least one segment of an atheromatous vessel.

A somewhat comparable study was carried out by Rivin[16] and his group, also utilizing autopsy data. They found that in male patients treated with large doses of estrogen for carcinoma of the prostrate, all who had gynecomastia also had minimal atherosclerosis and they concluded that there had been an apparent diminution of coronary atherosclerosis in males treated with large doses of estrogen. The female castrates had all been bilaterally oophorectomized before the age of

50 and at least one year before death. The analysis of this data showed that in all age groups, from 30 to 70 years, the incidence of severe coronary sclerosis in castrated females almost equaled that in the males. Their findings support the experimental evidence derived from animal studies which suggest that the female has less atherosclerosis than the male because ovarian secretions in some way protect her from this disease.

Turning to another specific effect of estrogen on arteries, Masters[17] found in a controlled series of cases that there is a particular response in the media of vessels leading to the internal genitalia where marked cellular activity is demonstrable. He said:

> Immediately apparent from casual inspection of the medial layers of the vessels and the perivascular activity demonstrated in the stimulated sections is that this phase of reactivation and regeneration of tissue is of major importance. The vessel walls and perivascular tissues have responded to the stimulation of steroid replacement by cellular multiplication. The nuclei in the medial layers of the vessels are apparently reactivated. The medial layers are thickened with bundles becoming much more prominent, and serial sections of the uterine wall have shown recanalization from luminal occlusion in many small vessels.

While the action of estrogen in Masters' cases may have been selective on the uterine vessels, it is inconceivable that the benefits would accrue to only one group without including others. Indeed Masters and Grody[18] found, also in a carefully controlled study, that their patients were psychically much improved although they could not demonstrate changes in the cerebral vessels.

My clinical experience confirms the conclusions from these studies. Not uncommonly uterine bleeding and return of the vaginal moisture will follow prolonged estrogen therapy indicating that there must have been a renewal of the circulation in addition to the more specific and local actions. Psychic changes for the better also have been striking in a great many cases in some of the elderly patients and castrates and strongly indicate an increase in the

Fig. 12. Fragmentation and proliferation of the elastica described by Morgan as "elastosis". This process indicates the episodic nature of intimal hemorrhage that results in piling layer upon layer. The hemorrhage fragmented the original layer and a new elastica was formed to cover the cellular reaction from this injury. Morgan maintains that coronary atherosclerosis is not a uniformly progressive disease but that it advances in a series of episodes characterized by hemorrhage and atheroma formation and that severe narrowing is the result of recurrent thrombosis.

cerebral circulation. The cardiac reserve also was enhanced and these patients tended to complain less of fatigue. In fact, the whole metabolism of these people in some cases was so markedly improved that one cannot escape the conclusion that estrogen therapy is actually replacement therapy and may be utilized freely during the latter years of life when the endocrine balance falters.

If the dictum of Masters that the gonads are the Achilles' heel of old age is correct, then the decline in the quantity and also the quality of the circulating estrogen does have far-reaching effects in the declining years. Southwood[19] states:

> We may not accept all of Selye's ideas (of the General Adaptation Syndrome) but we can agree with him in this: "There seems to emerge a new and somewhat more complex pathology in which the main objects of our study are no longer individual pathogens but rather pathological situations." Many factors seem to be involved and some of them can be removed or reduced. "Father Time" will not be thwarted but his activities can be postponed.

One of the factors susceptible to reduction is deprivation of estrogen, a situation somewhat parallel to vitamin deprivation.

The principle of estrogen therapy is to replace the declining quantity, and perhaps quality also, of the circulating estrogen. It is long term therapy which is maintained as long as it seems to serve a purpose. The results are not immediate and at least two to three months' trial should be given before any appraisal of its effectiveness can be made. In those patients who do respond, improvement reaches a plateau which sometimes is maintained for years. I believe the conjugated estrogens are superior to the synthetic variety and give just enough to avoid feminizing effects, uterine bleeding, headache or nausea. The usual maximum amount is 4 mg. a week for either sex but for men, the tablets containing methyltestosterone are used. Larger dosages are given

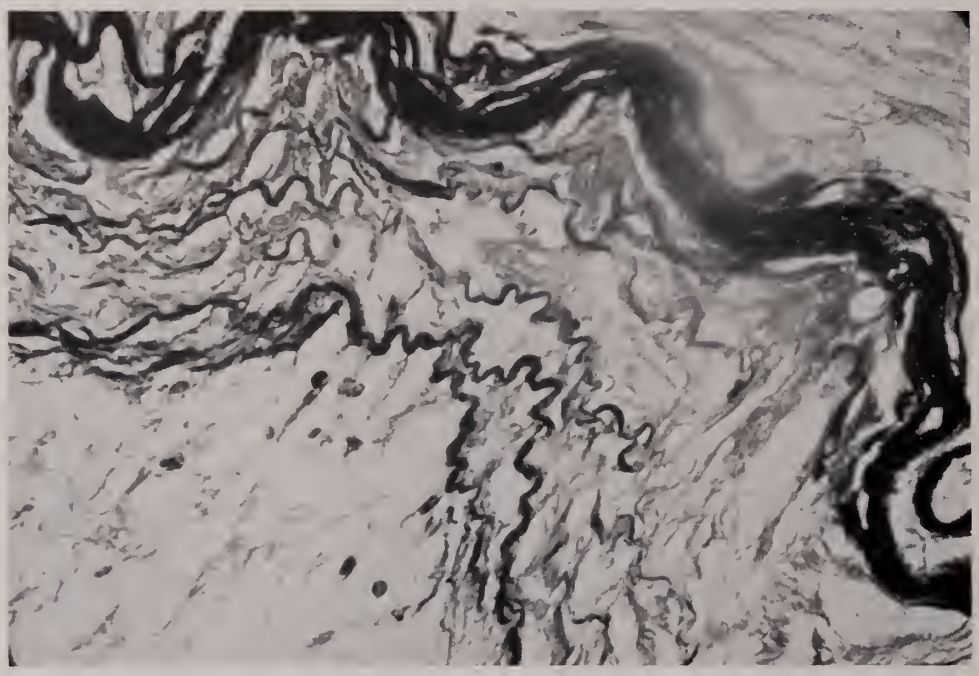

Fig. 13. This section and that of Fig. 12 are from separate parts of the circle of Willis of a 52 year old male who died from thrombosis of this vessel. No other lesion was found. Note the fragmentation and duplication of the elastica. The outer fragmented layer is continuous around the whole vessel and therefore is the original elastica. The inner layers surround the narrowed lumen only in scattered areas. In others it is either absent or extremely thin, indicating that it was in the process of encircling the lumen before thrombosis supervened. The space between the layers indicates that a distinct interval of undetermined length passed before the formation of the succeeding layer.

to women who have flushes until these have been dissipated and then the dosage is reduced. The therapy is continuous and is not omitted one week out of every four. More often I have found that 2 tablets per week of 1.25 mg. each are adequate after the age of 60.

Sufficient evidence has now been accumulated to warrant the continued use of estrogen to arrest spontaneous bleeding. The theory of the origin and the characteristics of this bleeding have been described in other publications.[20-23] Other investigators have found intravenous estrogen to be extremely useful in many fields, including, surprisingly, the hemorrhages associated with pulmonary tuberculosis. This therapeutic triumph must completely alter our conception of the mechanism of these hemorrhages. Shubin[24] and his group and Popper,[25] working in sanatoriums, report 52 cases of pulmonary bleeding associated with tuberculosis and the bleeding of 50 patients was arrested within an hour. Certainly then the cause of the hemorrhages could not have been the invasion of vessels by the infectious process, as is popularly supposed. One clue is that intravascular changes are comparable with those of bleeding and nonbleeding peptic ulcers. In the nonbleeding patient with tuberculosis or peptic ulcer, the lumen of the arteries is obstructed, first by a thrombus, and then by endothelial hypertrophy. In bleeding patients with either disease, there is a mechanism which inhibits endothelial hypertrophy since the vessels are wide open and even aneurysmal dilatations are present.

Comment

The purpose of estrogen therapy is to duplicate as far as possible the mechanism for the cessation of the natural and most common type of spontaneous bleeding—the bleeding phase of the menstrual cycle. The beginning and ending of this bleeding depend entirely upon endocrine changes; and this cycle has the ability to start bleeding by itself and to stop bleeding without the aid of coagulation. Admittedly, our attempts at imitating the estrogen metabolism are still awkward but in due course it is to be hoped that increased knowledge and improved compounds will surely bring better results.

Who should be given this therapy? Obviously those patients who have had either "small strokes" or who have survived a coronary attack are the most likely candidates as they have shown evidence of intimal bleeding. There are those patients who seem to be aging rapidly and also those who are developing signs of so-called involutional melancholia for whom estrogen is available combined with tranquilizers. Then there are those who display increasing irritability and irascibility and others who complain of fatigue. Any suggestion of beginning senility is an indication. I have found it to be of especial value in diabetes and hypertension in which retinal bleeding and intimal hemorrhages into the aorta are common. Concrete indications are few and far between but one is any operation that removes one or both ovaries.

Another indication may be the prevention of the late occlusion of arterial grafts. Edwards[26] concluded that the major causes of the failure of these grafts are: (1) fibrous tissue growth around individual fibers of the prosthesis ends in the loss of longitudinal elasticity and flexibility particularly around the hip and knee joints; and (2) the progression of atheromatous disease. He states there is no method at present for the prevention of this latter complication.

The retention of elasticity and flexibility in these grafts must await the invention of more suitable prostheses or the development of a technic that would render the removal of obstructions in the lumen of the artery more precise and thus keep the original vessel wall intact. But it may be possible to retard or even prevent the inevitable progress of atheromatous disease since it has been clearly demonstrated that estrogen profoundly and predictably affects the lipoprotein metabolism[27] and, what is just as im-

portant, probably can prevent much of the intramural bleeding as well as relieve the spasm of the arteries. If no emergency exists and there is sufficient time, estrogen therapy should be pursued preoperatively with the same intensity as for malignant disease. Postoperatively it should be continued almost indefinitely but perhaps with reduced dosages. This therapy does not interfere with the employment of other regimens such as anti-coagulants and dietary restrictions.

The side effects of gynecomastia, testicular atrophy and loss of libido should not deter the use of estrogen. The disease which precipitated the operation is still present and, unless such measures as are available now are taken, the operation will eventually prove futile. Perhaps improved compounds will reduce or eliminate these disagreeable sequelae.

What can be expected of this therapy? Certainly no miracles should be anticipated and it is in no sense a panacea for the ills of the elderly, but there is also the assurance that it can do no harm. The prevalent but preposterous fear of the carcinogenic property charged to these substances is entirely unfounded but has had an adverse influence on the more diverse employment of estrogen for vascular conditions that can be just as subtle and malign as cancer.

The most striking result of estrogen therapy is the increase in well-being and the feeling of fitness which so many display. Sometimes changes in mood and personality factors are easily discernible and these in turn are reflected in lessened reactions to stress and emotional tension. Occasionally improvement in the cardiac reserve can be noted by the reduction in fatiguability. Sometimes surprising accessions are obtained, of which reduction in nocturia and some relief from insomnia are the most common. Altogether they sum up what Southwood referred to as postponing the ravages of "Father Time".

While the drawing of conclusions on the value of estrogens in prolonging life is not yet justified, current data would seem to presage that the proof of such an influence will become established with the passage of time and the increase in experience. Currently, studies are being carried on in several clinics to determine if the long term administration of estrogen will reduce the incidence of coronary thrombosis. These studies require a long time and the results so far have been favorable. Stamler[28] and his associates have studied the effects of low dosage long term estrogen therapy on a group of 94 patients who had survived their first attacks of coronary thrombosis. Thirty-seven were given a placebo while 57 received estrogen. After 4 years, 8 of the 37 patients who had been given the placebo and only 3 of the 57 receiving the estrogen had died —a significant difference.

The action of estrogen on the arteries and on intimal hemorrhage is unknown; and even that it has a hormonal action cannot be stated with certainty. It is reasonable to assume that if estrogen will stop the more obvious spontaneous hemorrhages, it will halt these also. I am convinced that it has no influence on the coagulation process which is not altered to begin with. Johnson[29,30] maintains that estrogen, especially intravenous estrogen, has a pronounced effect on certain of the serum components which accelerate coagulation but I believe that neither accelerators, inhibitors, nor any other known factor have anything to do with the initiation or arrest of this kind of bleeding.

Schiff and Burn[31] studied the effect of intravenous estrogen, has a pronounced effect stance in order to explain the action of this hormone. They concluded (1) that historically the action of conjugated estrogens in the control of bleeding has been attributed to improvement of the intravascular clotting mechanism and a general hormonal effect. This explanation does not appear valid since intravascular defects are usually not present and endocrine action would re-

quire more time to act; and (2) the increase in acid mucopolysaccharides in and around the capillary walls, together with a shift of the sol-gel equilibrium toward the more solid gel state, are probably responsible for the effect of intravenous estrogens on the ground substance.

Recognition of the chemical changes in the ground substance of vessels and their relation to the estrogen metabolism may well mark a highly significant advance in the study of cardiovascular disease. Burman[32] points out the importance of the degeneration of the acid mucopolysaccharides in the development of dissecting aneurysms. When this ground substance becomes unusually thin or abnormally abundant, either microscopic separation of the elements of the media occurs or there can be a spontaneous longitudinal cleavage of all or part of a vessel wall without any hemorrhage at all. The dissecting is not done by hemorrhage but by antecedent changes in the tunica media. These changes are chemical in nature, hence the term "medial necrosis" is misleading.

When Burman's findings are added to the experimental and clinical evidence of Schiff and Burn that estrogen consolidates the ground substance and promotes the maturation of connective tissue, and to the demonstration by Masters that estrogen therapy stimulates cellular multiplication in vessel walls with reactivation of the medial layers and recanalization from luminal occlusion in the smaller vessels, it would seem that among the important functions of this versatile metabolic agent is the conservation of vascular integrity. Thus estrogen may reduce or even prevent the disintegration of the ground substance and the subsequent intimal hemorrhages along with their sequelae which are largely but of course not entirely responsible for the wide panorama of atherosclerotic vascular disease. Therapy with this hormone, which at first was wholly empirical, now has a much firmer basis.

However, none of the investigations have attacked the primary problem of why the bleeding starts in the first place, nor why so much blood can pour from apparently trivial lesions or from vessels which cannot, under normal conditions, transport so much blood. In intimal hemorrhage, just as in functional uterine bleeding in which the source is obvious, the cause cannot be considered to be the source and must be sought elsewhere. The conception that the human organism has the capacity to prepare a bleeding state, create a lesion specifically for the release of blood or take advantage of one already in existence is not in accord with present thinking. The space between the intima and media marks a vulnerable division in the arterial wall and it is here that a lesion is created, blood is released and the reaction to its presence develops. The fact that hemorrhages have occurred cannot be known until a major castastrophe in the form of an occluded vessel or rupture of an aneurysm happens. It would be absurd to predict such hemorrhages but certainly no harm can come from attempting to prevent them.

Summary

Intimal hemorrhage, although recognized over a century ago, is largely ignored today by pathologists and clinicians. It has had a long history in which efforts to emphasize its importance as well as minimize its effects have been made. Paterson's epochal discovery in 1936 of the vascularization process in the walls of arteries as the source of these hemorrhages opened up new horizons into the nature of cardiovascular disease.

Paterson and other investigators believe that the hemorrhages precede and prepare the site of atheromatous deposits which lead to the destruction, occlusion and aneurysmic dilatation of arteries. The opinion has been advanced that atherosclerosis and arterial occlusion may be different although related diseases.

The purpose of this article is to advance the theory that intimal hemorrhage is hormonal in origin just as other forms of spontaneous bleeding and differs only in

location. This kind of bleeding is due to a hormonal imbalance in which estrogen deprivation is the principal but not the only offender.

A definite relationship has been demonstrated between atherosclerosis and deprivation of estrogen experimentally, clinically and at autopsy. But spontaneous hemorrhage and particularly intimal hemorrhage cannot be produced experimentally. The extensive and successful clinical experience with estrogen therapy for this kind of bleeding from many sources, including the hemorrhages associated with pulmonary tuberculosis, indicates an imperative need for revising the present concepts of the mechanism of spontaneous hemorrhage and the necessity for considering spontaneous and traumatic bleeding as separate entities requiring different treatment. This experience indicates that estrogen therapy may be useful for inhibiting intramural bleeding.

Intimal hemorrhage cannot be diagnosed clinically until a major catastrophe happens but estrogen therapy can be used prophylactically. The indications are evidence of coronary and cerebral vascular injury such as coronary occlusion, small strokes, signs of senility, such as irritability, loss of memory and others. Women who have one or both ovaries removed should have this therapy continuously and it should be given both pre- and post-operatively to prevent late occlusion of vessels after the insertion of prostheses or the removal of obstructing cores.

The disagreeable sequelae to this therapy should not discourage its use until better compounds are discovered. The disease for which it is given is just as subtle and malign as cancer, and probably has a higher morbidity and mortality.

The estrogens used in this study were Premarin and Intravenous Premarin, Ayerst Laboratories, N.Y.

References

1. Editorial: Intimal Hemorrhage. Brit. M. J. #5127, April 11, 1959.
2. Paterson, J. C.: Vascularization and Hemorrhage of the Intima of Arteriosclerotic Coronary Arteries. Arch. Path. 22: 313, 1936.
3. Paterson, J. C.: Factors in the Production of Coronary Artery Disease. Circulation 6: 732, 1956.
4. Paterson, J. C.: The Reaction of the Arterial Wall to Intramural Hemorrhage. Symposium on Atherosclerosis. National Research Council, 1954.
5. Wartman, W. B.: Factors Concerned in Narrowing or Occlusion of Coronary Vessels. Publication #13 of the American Ass. for the Advancement of Science, 1940.
6. Wartman, W. B.: Occlusion of Coronary Arteries by Hemorrhage into Their Walls. Amer. Heart J. 20: 141, 1940.
7. Nelson, M. G.: Intimal Coronary Artery Hemorrhage as a Factor in the Causation of Coronary Occlusion. J. Path. & Bact. 53: 105, 1941.
8. Winternitz, M. C., Thomas, R. M. and Lecompte, P. M.: The Biology of Arteriosclerosis. Charles C. Thomas, Springfield, Ill., 1938.
9. Durlacher, S. H., Fisk, A. J., Fisher, R. S. and Lovitt, W. V., Jr.: Coronary Artery Lesions in Sudden Death. Circulation 8: 446, 1953.
10. Wartman, W. B.: Vascularization and Hemorrhage in the Arterial Wall. Studies in Pathology. University Press, Melbourne, 1950.
11. Morgan, D. A.: The Pathogenesis of Coronary Occlusion. Charles C. Thomas, Springfield, Ill., 1956.
12. Robertson, W. B.: Atherosclerosis and Ischemic Heart Disease. Lancet 7070: 444, Feb. 28, 1959.
13. James, T. N., Post, H. W., Smith, F. J.: The Menopause and Myocardial Infarction. J. Am. Ger. Soc. 4: 797, 1956.
14. Oliver, M. F. and Boyd, G. S.: Effect of Bilateral Ovariectomy on Coronary Artery Disease and Serum-lipid Levels. Lancet 2: 690, 1959.
15. Wuest, J. H., Dry, T. J., and Edwards, J. E.: The Degree of Coronary Atherosclerosis in Bilaterally Oophorectomized Women. Circulation 6: 401, 1952.
16. Rivin, A. U. and Dimitroff, S. P.: The Incidence and Severity of Atherosclerosis in Estrogen Treated Males and in Females with a Hypoestrogenic or Hyperestrogenic State. Circulation 9: 533, 1954.
17. Masters, W. H.: Long Range Sex Steroid Replacement Target Organ Regeneration. J. Geront. 8: 33, 1953.
18. Masters, W. H. and Grody, M. H.: Estrogen-Androgen Substitution Therapy in the Aged Female—Clinical Response. Obst. and Gynec. 2: 139, 1953.
19. Southwood, A. R.: Aspects of Preventive Cardi-

ology. Lancet #7069, p. 377, Feb. 21, 1959.

20. Jacobson, P.: Spontaneous Hemorrhage, A Clinical Entity, With Special Reference to Epistaxis. A.M.A. Arch. Otol. 59: 5, 523, May 1954.

21. Jacobson, P.: A Unified Concept of Spontaneous Bleeding. West. J. Surg., Obst. & Gynec. 63: 711, Dec. 1955.

22. Jacobson, P.: Hormonal Management of Spontaneous Hemorrhage. Virginia M. Monthly, 84: 396-402, August, 1957.

23. Jacobson, P.: Spontaneous Hemorrhage: A Clinical Entity, With Special Reference to the Bleeding State, Pathology and Hemostasis. Virginia M. Monthly, 85: 548, Oct. 1958.

24. Shubin, H., Heiken, C. A., Cohen, M. A. and Sokmensuer, A.: The Use of Intravenous Estrogen to Control Pulmonary and Other Bleeding. Clin. Med. 7: 4, April 1960.

25. Popper, J.: The Use of Premarin I. V. in Hemoptysis. Dis. of Chest 37: 659, June 1960.

26. Edwards, W. S.: Late Occlusion of Femoral and Popliteal Fabric Arterial Grafts. Surg. Gynec. & Obst. 110: 714, June 1960.

27. Marmorston, J., Moore, J. M., Makidson, O., Kuzma, O. and Lewis J. J.: Effects of Long-term Estrogen Therapy on Serum Cholesterol and Phospholipids in Men with Myocardial Infarction. Ann. Int. Med. 51: 972, Nov. 1959.

28. Stamler, J., Pick, R., Katz, L. N. and Kaplan, B.: Evaluation of Estrogen Therapy in Males with Previous Myocardial Infarction. Four Year Follow-up. Circulation 16: 940, Nov. 1957.

29. Johnson, J. F.: Changes in Plasma Prothrombin, Ac-globulin and Anti-thrombin Concentration Following Intravenous Administration of Estrogens. Proc. Soc. Exper. Biol., 94: 92, 1957.

30. Johnson, J. F.: Intravenous Estrogens and Certain Factors in Blood Coagulation. Clin. Med. 6: 637, 1959.

31. Schiff, M., and Burn, H. F.: The Effect of Intravenous Estrogen on Ground Substance. A.M.A. Arch. Otolaryng. 73: 43 (Jan. 1961).

32. Burman, S. O., Medial Degeneration and Its Relation to Dissecting Aneurysms. Int. Abst. Surg. 110:1 (In S.G. & O. Jan. 1960).

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A.M.A. Helps Industry Set Up Disaster Plans

A guide to aid medical departments of the nation's industries in developing a disaster plan that will work at maximum efficiency in any emergency has been prepared by the American Medical Association's Council on Occupational Health.

Lee N. Hames, Chicago, secretary of the council's Committee on Industrial Health Emergencies, said the guide is primarily a questionnaire for evaluating a company's readiness to cope with the medical problems associated with any industrial disaster.

"Information gathered in answering the questionnaire, along with information in the guide itself, will help the directors of medical departments in industries to correct inadequacies in existing plans as well as to stimulate development of new plans."

The guide, which is published in full in the April issue of the A.M.A. Archives of Environmental Health, is not adequate in developing atomic disaster plans, but it will provide a sound basis for such plans. The guide "should be a boon to physicians who do industrial work on a part-time on on-call basis for plants with small or no medical departments, and who may be called upon for advice in making medical preparations for any disaster."

The guide, which may be obtained upon request, encourage cooperation with community disaster teams and services, such as police, fire, Civil Defense, and Red Cross personnel and the military.

Hyperthyroidism and Hypoadrenalism Simultaneously

Case Report

CHRISTOPHER M. G. BUTTERY, M.D.
Rocky Mount, Virginia

An unusual combination of endocrine dysfunctions, successfully treated, is reported.

THE REPORT of this case with accompanying illustrations was prompted by the case report in the British Medical Journal of April 2, 1960, by Jenkins, Pilkington and Rosenor of St. George's Hospital, London, who report a similar case and state that after a thorough search of the literature they were only able to find reports of eight similar cases. They append a bibliography.

This 32 year old, Para III, white female was first seen on September 17, 1958, with the complaint of constant diarrhea, present for two years, which had not responded to any medication, she had lost 40 pounds in weight, had swollen feet and ankles, vomited two to three times every day, had continuous spasmodic intestinal pain and a growling stomach. She stated that she had last felt well three years previously.

Two years before I saw her she was told that she was anemic and was given a blood transfusion. She had been admitted to this hospital for her blood transfusion in June of 1956, at which time the only investigation was a blood count which showed a hemoglobin of 8.4G%. The red cell indices were: MCH 22%, MCV 80% and MCHC 27%. After one pint of blood her hemoglobin rose to 11.5G%. She was proctoscoped at this admission and there was no abnormal finding. When seen by me (see Fig. 1) this patient stated that she had diarrhea with ten to twelve watery stools daily and vomited two to three times a day, she had dizzy spells lasting several minutes two to three times weekly, she saw bright lights for a few seconds several times a day. Vegetables had made her stomach cramp and growl for the last year. She woke up nauseated daily and would vomit bile at the sight of food. She had an excessive appetite, was extremely nervous and had lost about 40 pounds in weight over the past two years. All other inquiries were negative.

On examination she was extremely cachectic and on first sight a snap diagnosis of Simmond's syndrome was made. Her face and neck showed a brownish pigmentation which did not extend into the mucosa of the mouth. This was of recent onset and was not due to sunlight . . . the EENT were negative. Apart from the obvious lack of flesh on the ribs the examination of the chest was negative. Her BP was 100/60 bilaterally. The temperature was 99°F, pulse 88 and the weight was 84 pounds and the height 62 inches. There was no hair apart from two or three single strands on the genitalia or in the axillae. The GU was negative except for a first degree procidentia and a small cystocele. Proctosigmoidoscopy showed excessive movements of the bowel and discharge of excessive yellow mucus. A BMR on a Jones Basalmeter revealed BMRs of +37 and +30. The patient was placed in the hospital for the following studies to be made. Febrile

agglutinations were negative as were skin tests for the systemic fungi and brucellosis. NPN was 82mgm% Serum Cholesterol 72mgm%, FBS 82mgm% Alkaline phosphatase 22 Bodanski Units, Serum Sodium 138 M Eq, Potassium 2.5 M Eq, Calcium 5.0 M Eq, Phosphorus 4.8 M Eq, Bilirubin indirect 0.4 and direct negative. A glucose tolerance curve was completely flat. An eight hour intravenous ACTH test showed no change in circulating eosinophils. Examination of the stools for parasites was negative. LE cell test was negative on three occasions. Total 17 Ketosteroids showed only 1.3 mgm excreted in 24 hours. A PBI was 5.9 gamma. Chest, skull, and facial bones were negative. IP, barium enema and upper GI series with follow through were negative. A bone marrow was negative except for some decrease in erythropoiesis. A total protein was 4.5 G% with albumin of 3.5 G. The blood count showed normal white cell series. The HGBN was 9.8 G and the red cell Indices showed MCH 24%, MCV 110%, MCHC 22%. Radioactive Iodine Uptake 15%.

Fig. 1

From the above data and the clinical history it was felt that this patient was now suffering from adrenal failure secondary to hyperthyroidism, the BMR being taken as correct. The relatively low BMR for the severity of illness was felt to be due to tissue exhaustion and the low PBI is secondary to the hypoproteinemia.

The patient was placed on Medrol, 4 mgm daily, and salt 5 grams daily, propylthiouracil 400 mgm daily. After three months she had gained to 120 pounds and was completely asymtomatic (Fig. 2); on examination she was found to have some ankle swelling and the salt was discontinued and the Medrol cut to 2 mgm daily. One month later her hemoglobin, which had risen to a level of 11 G%, was found to be

8.5 G% and she did not respond to oral iron or to iron plus B_{12}. It was not until the Medrol was aagin raised to 4 mgm daily that she recovered and the hemoglobin came back to 12.0 G%.

After a further six months the patient had gained to 130 pounds and was placed on a restricted diet.

One year from the initial visit the BMR, was found to be +18 and +20 and the

Fig. 2

Fig. 3

weight was now stable and the patient asymptomatic. Her ketosteroids showed a Total 17 OH—Ketosteroid level of 3 mgm in 24 hours. The medications were stopped and the patient watched. Within two months she was again anemic and this responded only to Medrol 8 mgm daily. After two years (Fig. 3), the patient is asymptomatic. She is being maintained on 4 mgm of Medrol every other day and her weight and hgb. are stable. Her thyrotoxicosis is in remission without any further propylthiouracil.

In the past two years two other patients have been seen with similar symptoms and BMRs in the +60-70 range who had total 17 OH-Ketosteroid levels just below normal but who recovered on propylthiouracil alone. In view of this fact I believe that this syndrome must be more common than is apparent from the cases so far reported and that the adrenal failure is secondary to the severe stress of hyperthyroidism which goes unrecognized.

Summary

An unusual combination of endocrinopathies is reported and discussed. In comment it is noted that this patient was seen, diagnosed and treated in a small general practice hospital and it is felt that a remark should be made that with the good cooperation present in this type hospital there is no reason why more patients cannot be treated in the smaller clinics and hospitals today especially as the more complicated tests for diagnosis become routinely available.

Franklin Memorial Hospital
Rocky Mount, Virginia

Anticoagulant Therapy in Heart Patients

Evidence supporting uninterrupted use of anticoagulants in treating heart patients was reported today in the April 22nd Journal of the American Medical Association.

The rate of recurrent blood clots in patients with heart disease was significantly lower during continuous anticoagulant therapy than it was after discontinuance of therapy, according to a study by Drs. A. B. Thomes, R. W. Scallen, and I. R. Savage, Minneapolis.

An estimated 803 of every 1,000 patients on continuous anticoagulant therapy would escape a recurrent blood clot during the first five years of treatment. When therapy is discontinued, the rate would drop to an estimated 365 per 1,000 patients during the five-year period following discontinuance. These findings "strongly favor permanent therapy".

The study also indicated a favorable survival rate among patients on continuous anticoagulant therapy. At the end of five years of continuous treatment, an estimated 736 per 1,000 patients would be alive, but five years after the discontinuance of therapy the survival estimate would drop to 672 per 1,000.

Excluding patients with diabetes and heart failure, the five-year survival rate of those continuously treated was estimated at 912 per 1,000 patients.

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Water Pollution in Virginia

In the early part of this century public health practice was aimed at the microbiological factors causing diseases in man. In the areas of water supply and sewage disposal, effort was largely directed to the problem of controlling water-borne diseases, chiefly enteric infections. As a result of the technology and research done in water purification, outbreaks and epidemics of disease spread by polluted water supplies have been virtually eliminated. It is well to recall that sterilization of drinking water by chlorination did not start in this country until 1908.

Clean water is a necessity. Our industrial expansion is dependent on it; our fish and wildlife are dependent on it. Our good health and our lives are dependent on water that is bacteriologically safe and free from harmful chemicals. In certain areas of the world, even in our own country, water supplies are actually insufficient. This results in the need to re-use water. It has been estimated that our national daily use of water has increased sevenfold since the beginning of the century and has doubled since 1945. Population growth, metropolitan expansion, and industrial growth are not only largely responsible for the marked increase in use of water but, at the same time, have created new and serious problems of pollution.

Certain constituents in sewage which are not removed in the treatment processes can cause concern to public health officials. These include synthetic detergents, nitrogens, phosphates, and certain viruses. While the toxicity of synthetic detergents in drinking water has not been established, it has been determined that in concentrations of one part per million, objectionable tastes and odors, and foaming results.

Detergents in any concentration are difficult to remove and treatment of waters with concentrations of less than one part per million adds considerable cost to the process. Nitrates in drinking water can cause cyanosis in infants. Phosphate compounds tend to promote the growth of algae, which cause objectionable taste and odor.

Population growth and metropolitan expansion have created water problems. Many of our municipalities, particularly the large cities, obtain their water supplies from surface sources. Communities and industries along a water course use these same streams to dispose of their wastes. Thus, heavy demands are being placed on both the water purification and sewage treatment facilities.

The period following World War II produced environmental changes throughout the Commonwealth. Metropolitan areas developed, and with their development came tremendous pollution problems. Population growth in certain sections of Virginia has been so rapid that it has exceeded the ability of governmental agencies to keep pace in providing adequate facilities for collection and treatment of sewerage. There has been public response to the recognition of these problems which has led to measures for their solution. Sanitary districts have been formed, water and sewer authorities have been created and bonds have been issued to take care of these pressing needs. Sometimes, the mechanics of legislation and governmental action have been slow but, on the whole, the outlook is encouraging. More individuals are realizing that water pollution is their problem, and this has brought progress in the abatement program.

The State Department of Health, jointly with the Commission of Game and Inland Fisheries, has the responsibility for the ex-

amination, analysis, and inspection of fish and shellfish packing houses of the State. All of the tidal streams of Virginia, particularly in the lower reaches, provide growing areas for shellfish which are considered the finest in the country. In certain parts of the Tidewater, the shellfish industry supports the economic pattern of its communities. The responsibility of the Department of Health is to monitor these waters as growing areas to see that they are clean and, if pollution is discovered, to restrict the harvest of shellfish for direct marketing. A continuing program of surveillance is necessary to maintain prevention of pollution. Areas under restriction at this time constitute a very small percentage of the total acreage of shellfish production.

Prior to 1930, there were only 19 sewage plants in the State which treated a very small percentage of the waste from the population. Today, there are 295 sewage plants in addition to those serving schools, motels, and Federal installations.

With two exceptions, all cities of Virginia have facilities for treating their wastes. Plans have been approved for treatment plants for the two cities still discharging raw sewage into State waters. It is estimated that 70 percent of the population of the Commonwealth is provided with approved sewage collection systems and treatment plants.

Tremendous progress has been made in the prevention and control of water pollution since the State Water Control Board was established fifteen years ago. However, the battle has not been won. New situations are created constantly, and it becomes necessary to make reappraisals almost daily. The State agencies concerned with the prevention of pollution and with providing safe and adequate water supplies are mindful of their obligations and are ever alert to fulfill the same. Citizens who are kept abreast of the need for such and the ways and means of providing them, will continue to lend their moral and financial support.

Monthly Report of Bureau of Communicable Disease

	Apr. 1961	Apr. 1960	Jan.-Apr. 1961	Jan.-Apr. 1960
Brucellosis	0	2	5	11
Diphtheria	1	0	7	5
Hepatitis (Infectious)	157	61	242	361
Measles	2229	917	3055	2736
Meningococcal Infections	5	5	23	26
Aseptic Meningitis	1	0	3	26
Poliomeyelitis	0	0	0	0
Rabies (In Animals)	37	12	118	104
Rocky Mt. Spotted Fever	1	0	3	0
Streptococcal Infections	847	451	3007	2994
Tularemia	1	2	3	21
Typhoid	1	0	1	3

Mental Health . . . .

JAMES B. FUNKHOUSER, M.D.

Some Historical Notes on John Minson Galt, Jr., and the "Temporary Duty" of Surgeon P. Wagner

In the spring of 1862 Dr. John Minson Galt, Jr., age 53, was one of the most outstanding psychiatrists in America. For almost a century his family had been associated with the Eastern State Lunatic Asylum at Williamsburg. The record of the Galts, who held some office in connection with the hospital (since the first "keeper" James Galt in 1770) was unparalleled in the history of mental hospitals in this country. Dr. John Minson Galt, Jr., was probably the most scholarly of all the 13 founders of the Association of Medical Superintendents which later became The American Psychiatric Association. He was an avid reader of the literature bearing on the care of the mentally ill. It is said he read the Koran in Arabic. He could read all European languages. In 1846 he published "The Treatment of Insanity," which was a compendium of authority found in books, magazines, articles, and other European and American documents.

It can be seen from his writings and from his annual reports that he strongly believed in occupational, recreational and bibliotherapy. He was known as a pioneer in educational therapy having instituted a program of academic education for his patients, including music. Dr. Galt was one of the first to appoint a full time chaplain to the hospital. He boarded many of his patients with residents of Williamsburg and invited the ladies of the town into the hospital, thus furnishing basis for the claim that he was also a pioneer in what is now considered modern "Foster Home Care", "Half-Way Houses" and "Volunteer Programs". The title of "Superintendent" had been created for him by the Legislature in February of 1841, although his service did not begin until July of that year because he had not finished medical school.

Dr. Galt's 20-year tenure as Superintendent was given over almost completely to the patients and to scholarly and classical pursuits. In person he was small in stature, completely devoted to his work, caring nothing for money. He consistently refused proposed increases in his salary. He never married.

Of course, when Virginia passed her ordinance of secession the College of William and Mary automatically closed its doors. All the students and faculty from the President on down went into the Army. But Dr. Galt stayed with his patients. The sleepy little town of Williamsburg did not hear the boom of artillery until more than a year after the guns fired on Fort Sumter.

General McClellan, USA, began his landing at Fort Monroe early in April 1862. He expected to reach Richmond quickly. However, he was held up by stubborn Confederate resistance before Yorktown until May 3. General J. E. Johnston, CSA, was finally forced to retreat on May 5. Williamsburg lay directly on the path to Richmond.

Entries in the hospital records at Eastern State Hospital are missing from March 28, 1862, until August 20, 1862. Possibly all clerical and bookkeeping personnel were fighting at the front. On May 6, 1862, when Federal troops occupied Williamsburg, General Schofield, USA, assumed command of the hospital and placed an Army doctor (probably Assistant Surgeon Thomas H. Sherwood) in charge as Superintendent. Dr.

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Approved for publication by the Commissioner, Department Mental Hygiene and Hospitals.

John Minson Galt was barred from admission to the grounds by armed troops. On May 18, 1862, he died of a heart disease "aggravated by distress of the occupation". At a distance of almost a hundred years it is not too clear why Federal authorities chose to take over a civilian mental hospital by force of arms. Had Dr. Galt been permitted to continue his duties, it would have saved valuable military personnel for other duties.

Possibly the Federal authorities had at first intended to use the buildings and equipment for military purposes but later changed their plans. The following orders are in the hospital records.

"Headquarters United States forces near Williamsburg August 20, 1862. Mr. Somerset Moore is hereby appointed clerk and storekeeper to the Eastern Lunatic Asylum and will duly perform all the duties pertaining to said appointment. By order of W. W. Averil, Colonel Commanding." On the following day, "Headquarters Military Governor, Williamsburg, Virginia, August 21, 1862, special order number 52. Assistant Surgeon P. Wagner of the Fifth Pennsylvania Calvary is assigned to *temporary duty* as Superintendent of Eastern Lunatic Asylum of Virginia, Vice-Assistant Surgeon to Thomas H. Sherwood relieved by order of Colonel W. W. Averil, Commanding Cavalry Brigade, by order of David Campbell, Colonel Commanding Fifth Pennsylvania Cavalry, Eugene McCandiss, Adjutant." Did the relief of Sherwood indicate a change of plans?

Following this in the minute books there are listed a number of patient movements throughout the war years. They show that both white and Negro, civilian and military, personnel of the north and of the south were admitted from within the lines of the Federal forces. The hospital was never used for general medical cases, but remained exclusively for mentally sick persons throughout the war. Patients were discharged apparently as soon as possible, many of them leaving the hospital under a flag of truce. The last entry written by Surgeon P. Wagner was dated on October 28, 1865. In this entry he states that medical supplies and all necessary patient needs *except food* had been ordered from the quartermaster "in sufficient amounts to last through the winter". He estimated that due to the "condition of the roads" they might not arrive for ten days.

There is no evidence in hospital records that they ever arrived. It is interesting and possibly significant that this entry unlike earlier ones is not signed "Superintendent" but "Post Surgeon". Surgeon Wagner's "temporary duty" had lasted for more than three years.

There is evidence in his notes that he was not an unkind man. Necessities of war undoubtedly forced him to discharge patients before they were well, but he apparently made sincere efforts to reunite husbands and wives by requesting and obtaining military authority to pass patients to relatives through military lines under a "flag of truce".

It is doubtful whether Dr. Galt, had he survived, could have done much more.

What transpired within the hospital while it was under military control can be surmised by reading the report of the Board of Directors of Eastern State Hospital Lunatic Asylum to the General Assembly addressed to Governor F. H. Pierpoint and dated December 1865. The hospital minutes book shows that the Board met at the hospital on October 5th. In the preamble of this report it states that owing to the fact that Eastern Lunatic Asylum was not taken possession of by the State until the first of November 1865 "no reports of an earlier date could be satisfactory or correct." The report to the Governor goes on to state that the buildings were found in deplorable condition and the patients "habiliments" were disgraceful. There was no clothing in the clothing room at all, and only food sufficient for one meal left in the hospital at the time the Federal troops turned it over to the Board of Directors. The gas house was non-operating and in complete disrepair. There were no funds left on deposit.

Apparently out of some sort of discre-

tionary Federal funds Governor Pierpoint had been able to release $15,000 to the Board somewhat earlier to take care of the immediate needs of the hospital for which the Board rendered thanks.

In summary, the available records do not show that there was any abuse of patients at Eastern State Hospital and no more neglect than is the usual consequence of war.

BIBLIOGRAPHY

Gaines, Wm. H., Jr.: The public hospital for disordered minds. Virginia Cavalcade. III; #1, Summer 1953.

Hamlin, P. G.: John Minson Galt and the Williamsburg asylum. Virginia M. Monthly. 69: October 1942.

Jones, Granville: History of the founding of Eastern State Hospital. Am. J. Psych. 110: #9, March 1954.

Documents of 1865-66 #8, Virginia State Library. Report Board Directors Eastern Lunatic Asylum, Dec. 1865.

Personal communication from Marjorie Caldwell, Medical Records Librarian; Registers, minute books, records, Library Eastern State Hospital.

Stevens, Wm. O.: Old Williamsburg. Dodd Mead & Co., New York 1937.

Hurd, Henry M., Drewry, Wm. F. et al.: The institutional care of the insane. U.S. & Canada. Vol. II & III, Johns Hopkins Press. Baltimore, 1916.

Johnston, Joseph E., CSA: Manassas to Seven Pines. Battles and leaders of the Civil War, Vol. II, pages 202-219. The Century Co., New York. 1884.

Radioactive Iodine Beneficial

Radioactive iodine has produced "striking improvement" in persons with hyperthyroidism and some forms of heart disease. A study of 356 thyrocardiac patients was reported in the April 29th Journal of the American Medical Association.

Hyperthyroidism is the condition resulting from an overactive thyroid gland which produces an excess of thyroid hormone.

The best result was obtained in hyperthyroid patients suffering a convulsive heart beat (atrial fibrillation). Of 81 such patients, all but 81 showed improvement of the heart ailment when the thyroid condition was controlled—a rate of 99 per cent.

Improvement was shown in 85 per cent of the hyperthyroid patients with congestive heart failure, 93 per cent of those with angina pectoris, and 96 per cent of those suffering both angina and heart failure. The latter were considered improved if either disorder was benefited.

The patients' treatment consisted of only radioactive iodine. Although the average dose for the thyrocardiac patients was greater than for hyperthyroid patients, a significant number of thyrocardiac patients were controlled with relatively small doses. Each was treated until the hyperthyroid state was completely controlled.

The beneficial effects of the control of the hyperthyroid state on the symptoms of thyrocardiac disease can be attained by the control of the thyroid disease with surgery, antithyroid drugs, or radioactive iodine. However, one major advantage of radioactive iodine therapy is the low recurrence rate, which was less than one per cent in this series.

The findings were reported by Drs. Clement Delit, Solomon Silver, Stephen B. Yohalem, and Robert L. Segal, Mount Sinai Hospital, New York City.

Pre-Paid Medical Care....

Edited by
RICHARD J. ACKART, M.D.

Blue Shield's Relative Value Index

During the past year the National Association of Blue Shield Plans has devoted much time and energy to basic considerations of what must be done if the dominant position of Blue Shield as the foremost mechanism of voluntary physician-care prepayment is to be maintained. It is a matter of increasing concern that Blue Shield has been cast in a defensive position in the public mind. It is urgent that new and dynamic approaches be immediately developed so that the Plans may once more assume an aggressive attitude which, above all else, will reassure the people of the United States that Blue Shield is in fact the answer to their problem on both a short- and long-range basis.

To the extent that health care prepayment is still subject to local solution, Blue Shield still provides a satisfactory answer; however, it is to the extent that the market has become national that public attitude has become critical of the unwillingness of Blue Shield physicians to adjust philosophies in the interest of unified national action.

How important are the national market issues? Exclusive of the farm population, and those who are self-employed, approximately 65% of the working force in this country is employed by organizations with locations or installations in more than one state.

In recent years, a large segment of the prepayment market has assumed national proportions, and that segment, heretofore satisfied with the actions and abilities of the several Blue Shield Plans on a non-coordinated basis, can now be satisfied only if the Plans act collectively. There are many reasons for this. During World War II, the introduction of contribution by management toward the cost of health care prepayment stimulated a growing interest on the part of management in programs which previously were employee-sponsored and employee-financed. The United States Supreme Court decision in 1948, establishing fringe benefits such as Blue Shield as a proper issue of collective bargaining, motivated additional interest by management and placed organized labor in a full-fledged position of interest and concern. These two developments caused the home offices of companies and the headquarters of unions to become interested in Blue Shield for more or less the first time.

The post-war period has seen two additional developments which have contributed largely to a national tendency in a market which previously was very much a series of local issues. The trend toward nation-wide bargaining by organized labor, with successful efforts to eliminate geographic wage differentials, together with an attitude that all employees of the company should be treated alike has been important to Blue Shield. This development helped to point up the difference between Plans and breed impatience by management and unions with the Plans' lack of coordinated effort and uniformity.

With this development, by labor, came a trend in American business toward fewer and larger companies within industry resulting from consolidations, mergers, and purchases. It is difficult to read the business section of the newspaper without being aware of this trend in American business. The growth of corporations such as General Dynamics, Olin Mathieson, and Consolidated Foods are examples of this trend toward expansion and diversification. Beyond this there is the trend toward health care financing at the national level which presents a

fundamental challenge to the Blue Shield Plans as autonomous local organizations. For example, prior to 1960 local installations of Western Union were enrolled in almost every Blue Shield Plan, but then the union and company agreed to establish a national program for health care prepayment, and this membership thus was lost to Blue Shield.

Recognizing that most of the membership in large industries is obtainable only through coordinated effort of all Blue Shield Plans, the need for action now is obvious. Blue Shield's long-range future is dependent upon a consolidated effort by all Plans for a common purpose. For those who choose to espouse approaches to health care protection on bases which are not voluntary in nature, or which threaten the free practice of medicine, Blue Shield's weakness in national situations serves to make the premises on which their arguments are based more believable. Consequently, such weakness fosters doubt in the ability of the voluntary system as an ultimate solution, and this doubt tends to encourage public consideration of compulsory mechanisms.

Thus, Blue Shield Plans must compromise their differences and act as a tightly knit organization of physician-sponsored Plans dedicated to meet the needs of people under all sets of circumstances. Blue Shield's future demands that the Plans accommodate a market with ever increasing national tendencies and trends toward purchase at the national level.

In order to establish the flexibility which will permit Blue Shield to assume again a clear role of leadership in the prepayment field, the National Association of Blue Shield Plans now is urging all Plans to use a standard relative value index for determination of Blue Shield fees. Only through the use of a relative value index can Blue Shield assure that national account fee schedules, regardless of level, will be defensible.

As soon as the composite relative value indices are available to them, the local Blue Shield Plans will wish to establish fee schedules accordingly. The understanding and cooperation of all Blue Shield Participating Physicians in Virginia are earnestly solicited. All physicians must recognize that Blue Shield is a national organization, that Blue Shield must have a national product, and that Blue Shield can no longer afford to flounder in a mass of avoidable fee variations. Unwillingness on the part of any one Plan to participate in interplan and national contract offerings will place a barrier in the path of extension of Blue Shield coverage. And there can be no doubt that the inability of Blue Shield to offer a uniform program of medical prepayment for national groups has been, and is today, a major obstacle to the normal development of Blue Shield's service to the public and the medical profession—in Virginia as well as elsewhere.

Editor's Note: During the past two years Dr. Ackart served as a member of the Board of Directors of the National Association of Blue Shield Plans, as a member of its Executive Committee, and as the Chairman of the National Blue Shield Enrollment Committee. This editorial is adapted from his report to the Annual Conference of Blue Shield Plans, Chicago, April 1961.

Alcoholism . . . .

WILLIAM F. GIBBS, M.D.

The Wife of the Alcoholic

"The Wife" of the alcoholic does not exist as a type any more than "the alcoholic" exists. The research of the past 15 years has permitted reorganization of our concepts. Now alcoholism is seen as a major presenting symptom in individuals who have various underlying emotional ills.

The wife of an alcoholic has problems as specific as her husband's, but they are less well understood. In the popular view she is seen as a tragic but brave, patient, non-rejecting, mothering paragon of wifely virtues whose forebearance permits her occasional lapses from her role—"and who can blame her with all she's put up with." The clergyman, physician and friend-of-the-family counsel her, enlist her aid in their therapy of the sick alcoholic and generally behave as if she is stable, capable and non-involved. She is told in articles published in medical, quasi-medical and ladies' home journals to: "Look at your marriage with a critical eye to see if there is anything unsatisfactory about it," or; "while refraining from preaching or lecturing try to guard against a 'holier-than-thou' attitude." Have these women no privilege, can no one aid them with their awful problems? It is necessary to devote to them as much of the appraisal and expert care as to any other emotionally ill patient. Basically the married alcoholic is more socially integrated and able to accept treatment than the never married alcoholic. He can be aided by treatment of the devastating neurotic defenses of his wife.

The alcoholic and his wife sought and found in each other complementary, though often divergent, personalities, ignoring realistic signs of underlying personality disorders. In their fantasy they projected idealized images of each other to serve their own needs while these needs were actually incapable of being satisfied. After marriage reality forces awareness of his desperate alcoholism upon the wife. She may see that she may not be responsible for his alcoholism, but she may be one of the reasons for his continuing to go on sprees.

At this point many theorists have summarized and produced explanations of her behavior. Studies of wives of alcoholics are infrequent. A recent search[1] of the pertinent literature on "Alcoholism and Marriage" produced a Bibliography of 46 items (only three dwelt with husbands of alcoholic wives). Studies of wives of alcoholics are mainly descriptive. They are characterized by contradictions, inadequate numbers of subjects, short term analyses and intuitive conclusions. They are contaminated with revelations that wives of alcoholics are often alcoholic, or psychotic or passive-dependent masochists. The husband is described as "an alcoholic", no personality correlations are made. Studies show that the wife's adjustment deteriorates as the husband becomes dry or improves in dealing with his personal problems.

Jackson[2] studied marriages as reported by wives attending Al-Anon meetings. She found a pattern of family adjustment to alcoholism and described a series of seven stages. In marriages which survived and adapted to the changing situations, the husband eventually sought aid via Alcoholic Anonymous. The wife received support and intellectual insight thru Al-Anon Family Groups. She may have been able to break a pattern of mutual dependency and withdraw emotional, physical and financial support. She has tried home remedies: pouring out, hiding and adulterating liquor. She curtailed their social life, changed neighborhoods, jobs, friends, made threats, temporarily separated. Pledges were demanded, signed

and broken because rarely can a man "put down the bottle" without help. Such a man is exemplified and referred to in song and legend. She had to wait out the long expensive tour of doctors, hospitals, cures, clinics, jails and commitments, until her man "hit bottom". She then learned that sobriety is not enough—there remains the vast underlying problem of mature adjustment, acceptance of reality, and control of anxiety, tolerance of frustration, etc., etc. Surely this woman needs our help.

In Summary: The wife of the alcoholic is not a type any more than the alcoholic is a type. She is a neurotic individual deeply involved in a situation full of critical stresses. Her problem has not been given adequate study. Ignorance of problems she faces is so widespread as to permit a belief that "love and marriage" will alter basic character disorders. Treatment programs for alcoholics cannot include her on the therapeutic team unless she is aided with her own problems.

Bibliography

1. Bailey, Margaret B.: Alcoholism and Marriage. Quart. J. Stud. Alc. 22: P. 81-98, Mar. 1961.
2. Jackson, J. K.: The Adjustment of the Family to the Crises of Alcoholism. Quart. J. Stud. Alc. 15: P. 562-586, 1954.

Oxygen in Cyanide Poisoning

Oxygen is "a specific antidote" in cyanide poisoning, according to Dr. Constantin Cope, Memphis, Tenn.

He presented evidence that "oxygen exerts a protective effect on cyanide toxicity" in an article appearing in the March 25th Journal of the American Medical Association.

The exact biochemical mechanism is not known, but increased oxygen tension in the arterial blood stream in some way blocks the cyanide effect. As long as the oxygen tension of the body is adequate, the toxic effect of cyanide is usually reversible.

A person with a lung ailment producing a lower than normal arterial oxygen tension is more vulnerable to cyanide poisoning. Similarly, a person with coronary heart disease or cerebral artery disease may have borderline oxygen tension.

"Under these conditions, cyanide opposed by a low oxygen pressure probably can kill quickly—certainly before any therapy can be given."

"It is, therefore, logical to recommend that only young healthy workers under 40 years of age be employed in those areas of industry in which accidental cyanide poisoning may be a hazard. Anyone aged over 40 with any sign of cardiorespiratory insufficiency should be restricted from working in such places."

Oxygen, as well as suitable drugs, should be available for immediate use in cases of accidental poisoning.

The most vital steps in the treatment of cyanide poisoning are artificial respiration, if necessary; inhalation of pure oxygen, and the maintenance of a normal blood pressure. Drug therapy shortens the course of intoxication, he said, and is life-saving when the poison is taken by mouth.

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Mrs. John R. St. George, Portsmouth

Tri County Luncheon.

On April 27th at the Westbriar Club in Vienna, the Auxiliaries to the Arlington, Alexandria and Fairfax County Medical Societies met for luncheon. The Fairfax Auxiliary was hostess for this year and Mrs. Peter Soyster, president, cordially welcomed the guests and members. Mrs. Clyde Bedsaul, president of the Auxiliary to The Medical Society of Virginia, and Mrs. William F. Grigg, Jr., president-elect, were guests of honor for the occasion. Other Auxiliary presidents were Mrs. Robert Norment of Alexandria and Mrs. Robert Anderson of Arlington. Mrs. Henry Bastien as head of the AMEF in the State, Mrs. James Moss, State treasurer and councilor to the Southern Medical Auxiliary, Mrs. Carl P. Parker, Jr., chairman of the State nominating committee, Mrs. T. B. McCord, vice-president of the State Auxiliary, Mrs. Hermann Diamant, president-elect of Arlington, Mrs. William Reardon of Fairfax, and Mrs. Moss of Alexandria, were at the head table. Mrs. Allan Hall was in charge of plans and decorations for the luncheon.

In her talk, Mrs. Grigg deplored the apathy toward civilian defense. We owe to our children the chance to survive. Others will turn to us as doctors' wives in the event of attack. We need informed auxiliary members to help our doctors.

Mrs. Bedsaul asked that we preserve the heritage of medicine which the A.M.A. is struggling to do. We should encourage the young people to enter health careers and we should support the medical schools through AMEF. Medicine practiced in a free society is the most effective but a strong auxiliary is needed to help.

Mrs. C. Barrie Cook, *Publicity*
Fairfax County Auxiliary

Safety Tips for Flying Kites

The following safety rules for flying kites were suggested in the May Today's Health, a publication of the American Medical Association:

—Never fly a kite in the rain.

—Don't fly a kite that has metal in the frame or tail, or use tinsel-string, wire, or twine that has metal in it.

—Avoid electric power lines, radio and television aerials when flying a kite.

—If the kite gets caught in power lines, never pull on the string or climb the pole to loosen it.

—Fly the kite in an open field and avoid running across streets or highways.

—If the kite or string gets stuck on a roof, tree, or wires, leave it there and get a new kite.

Editorial . .

To Speak Fitly

DURING THE SERMON the other Sunday, I was startled out of reverie by the minister's stating, "A catatonic has no friends because he cannot speak". No longer is silence golden, if it ever was. "A word fitly spoken," according to Proverbs, "is like apples of gold in a setting of silver." All America has been favorably impressed by the unusual articulateness of the astronauts.

One of the greatest assets a professional man can have, assuming, of course, that his professional learning is adequate, is the ability to communicate both by word of mouth and by the written word. The art of communication is fast becoming a lost art in the midst of a plethora of communication media. Perhaps the very nature of the media, the necessity for filling with words—any words—the gaping holes of newspaper and magazine columns, the empty minutes on television and radio, has contributed to the gobbledygook we hear and read these days. This necessity has certainly contributed to the carelessness with which we choose these words. At the risk of seeming petty, pedagogical or picayune, I recommend that our profession, particularly, exert great care not only in what we say but in how we say it.

Use of the words "appraise" for "apprise", "imply" for "infer", might make a patient worry lest the doctor's professional knowledge be on a par with his knowledge of the language. As the New Yorker Magazine once quipped about the contents of a certain brand of cigarette: "We wonder whether the company is as careless in the preparation of its products as it is in the grammar of its advertisements." Small things, to be sure, but not so small if a more literate patient finds his confidence in his doctor waning.

In industry, big business executives have in the past been men of force who have worked their way to the top through their technical skill and knowledge. Now big business gives priority to articulateness. Top executives are chosen largely because of their ability to communicate their ideas to others and thus mold policy.

In this modern world, medicine must realize that it, too, is big business. We must choose our spokesmen from among those who can best present medicine's point of view to the public. We should prefer to have all members of the profession as able as Dr. Ennis proved to be in his television debates with Walter Reuther this past winter. Since we are not all as gifted as Dr. Ennis, we should certainly encourage our prospective medical students to get as firm a foundation as possible in the humanities during their undergraduate days, with emphasis on how to write and how to speak—Fitly. ("In a fit manner; also, at a fit time.")

HUGH H. TROUT, JR., M.D.

Current Currents

KING BILL: The House Ways and Means Committee plans to hold extended public hearings on the King bill (H.R. 4222) after it has completed hearings on the Administration's tax reform bill. Since hearings on the tax reform measure will run well into June, the King bill will probably not have its day until late in the month or early July.

This move might well take some of the pressure off the Senate to tack medical care for the aged provisions to the House passed Social Security cash benefits bill. This, however, provides little reason to feel encouraged. Only recently, Senator Clinton P. Anderson (D., N.M.) declared: "There has been some speculation in the press that there will be no effort in this session of Congress to get action on President Kennedy's program for health care for the aged. . . Neither the Administration nor the supporters of this proposal in the Senate, are shelving their interest in the health of our elderly until next year."

KEOGH BILL: Physicians can find something to cheer about in the fact that the House Ways and Means Committee has ordered the Keogh bill (H.R. 10) favorably reported—despite Administration opposition. The bill would permit self-employed persons to deduct for income tax purposes 10% of their incomes, up to $2,500 a year, if they invest in specified types of retirement plans. The bill is expected to receive House support when voted on during the latter part of May.

Although Senate passage also appears quite likely, action by that body may be delayed until next year because of Administration opposition. Congressman Keogh (D., N.Y.) recently said: "We have taken a big step in the right direction and I am confident that after ten long years of waiting, H.R. 10 will be enacted into law."

TV DEBATE: There is considerable speculation as to whether Secretary of HEW Ribicoff will accept an AMA challenge to debate the subject of socialized medicine. Ribicoff, while voicing his willingness to debate, has balked at facing Dr. Edward Annis. He insists that his opponent be AMA President Dr. E. Vincent Askey. With charges and counter-charges flying thick and fast, a showdown decision is expected momentarily.

KERR-MILLS: President Kennedy has signed into law H.R. 4884. The bill, which provides aid to dependent children of unemployed parents, contains a provision which expands the Kerr-Mills program. Under the provision, the amount which the Federal Government can provide as matching funds for medical care under old age assistance is increased from $12 to $15 a month.

QUOTE OF THE MONTH: Dr. John Wyatt Davis, Jr., Chairman of the Society's Public Relations Committee, calls attention to a letter written by Congressman Richard H. Poff in answer to an inquiry by a patient concerning health care for the aged. Your editors believe that the views of Congressman Poff are shared by nearly all of Virginia's representatives in Congress. Mr. Poff wrote: ". . . I find it difficult to follow the reasoning of those who argue that the Social Security approach is the only solution. Under Social Security, the program would be administered solely by the Federal Government. The Kerr-Mills bill passed last year (P.L. 86-778) provides for State and local administration with a Federal contribution to the cost, and unlike the Social Security approach, contains a 'needs test'. Surely, the Kerr-Mills program should be given an opportunity to prove or disprove itself before the Social Security program is saddled with another increase and another drain on the fund which most economists consider already actuarially unsound. . . ."

NATIONAL SECURITY CONFERENCE: The Council on National Security, American Medical Association, will sponsor its 9th annual conference on disaster medical care in New York on Saturday, June 24. The conference will be held at the Statler-Hilton Hotel.

This year's conference is being presented by the United States Air Force Medical Service, and the theme is "Defense Training for All—A Resource for National Defense". On the basis of Air Force experience, training, and operation, its Medical Service has planned an outstanding program devoted to the civilian application of medical preparedness in nuclear war.

A complete program can be obtained by contacting the Council at AMA headquarters, 535 North Dearborn Street, Chicago 10, Illinois.

TOUCHING ALL BASES: A floating hospital has recently been made available to the tens of thousands of Chinese who live all their lives on sampans and fishing boats in Hong Kong bay.

There are 231 full-time nurses per 100,000 population in this country whereas the American Nurses' Association considers 300 nurses per 100,000 a reasonable figure.

In 1926, a man in New Jersey set a glass of lemonade containing a spoon on a window sill and in the morning it was frozen. When he put the glass under the water tap and the lemonade slipped out in solid form with the spoon as handle, the popsickle was originated.

The rate of hospital admissions for ulcers has quadrupled in the past twenty years, according to a national health survey.

Society Activities . . . .

Southwestern Virginia.

The regular spring meeting of this Society was held in the George Wythe Hotel, Wytheville, on April 20th. The president, Dr. J. A. Soyars, Saltville, called the meeting to order.

A resolution was introduced and passed that the delegates to the annual meeting of The Medical Society of Virginia should present that this society is in favor of Catawba Tuberculosis Hospital being restricted to admission for cases of proven tuberulosis, or reasonably suspects for same. Another resolution was passed that the delegates should push for the State of Virginia to pass enabling legislature that would permit doctors to incorporate and thus save on income taxes and allow for retirement funds.

The fall meeting of this Society will be held in Radford on September 3rd.

The Medical Society of Northern Virginia

Met at the Shenandoah County Memorial Hospital, Woodstock, on April 11th, with Dr. Dennis P. McCarty, president, presiding, and Dr. William B. Crawford, vice-president, acting for the host hospital.

The following scientific program was presented: Disc Syndrome by Dr. Stanley Sager; Duodenal Loop by Dr. Jesse Clore; Review of Cytological Smears by Dr. George Murphy; and Drug-Induced Anemias by Dr. Donald M. Mohler, department of hematology of the University of Virginia.

Neuro-Psychiatric Society of Virginia.

At the recent meeting of this Society, Dr. Robert H. Thrasher, Norfolk was installed as president. Dr. Howard H. Ashbury, Williamsburg, was named president-elect; Dr. Edward W. Gamble, II, Radford, secretary-treasurer; Dr. Weir M. Tucker, Richmond, member of the council; and Dr. G. Edmond Stone, Staunton, representative of the assembly.

Tri-State Medical Association.

The Annual Meeting of this Association will be held at The Cavalier, Virginia Beach, July 27th and 28th. Dr. Furman T. Wallace, Spartanburg, South Carolina, is president, and Dr. Malcolm H. Harris, West Point, president-elect. Further information may be obtained from the secretary-treasurer, Dr. R. B. Davis, 122 South Greene Street, Greensboro, North Carolina.

The Virginia Society of Pathology

Recently adopted the following resolution and asked that it be brought to the attention of members of The Medical Society of Virginia:

In common with other forms of medical consultation, the Pathologists' opinion serves the patient best when there is direct contact between the Clinician and Pathologist.

In no other examination is there any greater need for such a contact than in the correlation of cytology, biopsy, and clinical signs of symptoms.

Our collective experience having taught us that the patient is best served by direct discussion, and knowing that all parts of the State of Virginia are adequately served by Pathologists, WE, THEREFORE, RESOLVE THAT:

1. Clinicians be urged to submit their cytology slides to the local pathologist.
2. The members of the Virginia Society of Pathology reiterate their long standing policy to perform without charge, any laboratory procedure, including cytology, on patients declared indigent by the attending physician.

News . . . .

New Members.

Since the list published in the May issue of the Monthly, the following doctors have been admitted into membership in The Medical Society of Virginia:

Jerome Eugene Adamson, M.D., Norfolk
Edward Lee Alexander, Jr., M.D., Newport News
Albert Facundo Borges, M.D., Falls Church
William Turkington Clarke, M.D., Richmond
Emilio Espinosa, M.D., Suffolk
John Hamilton Greig, M.D., Richmond
Bahri O. Gungor, M.D., Vienna
Donald Sherman Howell, M.D., Suffolk
Robert Archer Goodwin Jones, M.D., Hampton
Thomas George McWilliams, M.D., Arlington
Walter H. Mendel, M.D., Richmond
Italo Pio Rinaldi, M.D., Newport News
William Asa Seawell, M.D., Suffolk
John Russell Wadleigh, M.D., Arlington
Carold Jean Whidden, M.D., Rural Retreat

Dr. Leroy Smith Honored.

Dr. Smith of Richmond has been presented this year's local B'nai B'rith citizenship award which is made annually to a Richmond resident who has made an outstanding and worthwhile contribution to the community. He has performed nearly 2,000 plastic operations at the Crippled Children's Hospital and has served since 1947 as major medical consultant to the State Rehabilitation Service and since 1958 as clinical director of the facial and deformity project of the State Bureau for Crippled Children.

Dr. Smith was also presented with a similar award from the Sertoma Club of Richmond. This award is given annually to outstanding citizens for humanitarian, civic or other service to the community or nation. It goes only to non Sertoma members.

Dedication of St. Elizabeth's Medical Building.

The thirty-first annual meeting of the St. Elizabeth's Hospital (Richmond) Association of Ex-Interns and Residents was held in conjunction with the dedication of the new medical building on April 25th. The clinical session was held at the Commonwealth Club with the following program: Breast Cancer and Pregnancy by Dr. Joseph H. Farrow, Association Clinician of Sloan-Kettering Institute for Cancer Research; Palliative Treatment for Recurrent and Inoperable Carcinoma of the Breast by Dr. E. Meredith Alrich, University of Virginia; Civil War Medicine by Dr. Harry J. Warthen, Medical College of Virginia; and The Ideal Surgeon by Dr. Paul C. Colonna, Professor of Orthopedic Surgery of the University of Pennsylvania.

The new medical building which adjoins the hospital was dedicated to the memory of four doctors who were active members of the staff at the time of their death—Dr. J. Shelton Horsley, Dr. John S. Horsley, Jr., Dr. A. I. Dodson, and Dr. Thomas E. Stanley. The building houses administrative offices, examining and treatment rooms, medical records library, staff dining room and other miscellaneous rooms for the staff.

The J. Shelton Horsley Memorial Lecture was held at the Richmond Academy of Medicine in the evening. Dr. J. D. Martin, Professor and Chairman of the Department of Surgery of Emory University, spoke on Steroid Induced Ulcers of the Gastrointestinal Tract.

DAR Honors Physicians.

The Cobbs Hall Chapter of the Daughters of the American Revolution has recently honored two physicians.

Dr. Chichester Tapscott Peirce, Nuttsville, has been presented with a framed, hand-printed-on-parchment tribute for "his many years of service to the people of this community. For his loving concern and sympathetic understanding encompasses the true value of the family doctor to each of us. As our physician, advisor, and friend, he has made our lives finer because of his presence." Dr. Peirce began his medical practice in Accomack County in 1899.

Dr. Robert Eubank Booker, Lottsburg, was also presented a parchment tribute honoring him for his loving concern and sympathetic understanding. He has practiced in Lottsburg for more than fifty years.

Portrait of Dr. Archer.

Dr. Vincent W. Archer, Past-President of The Medical Society of Virginia, was honored in Charlottesville on April 14, when his portrait, overlooking the department reception area of the new University Radiology Building, was unveiled. Many of Dr. Archer's close friends and associates, including Senator A. Willis Robertson and former Governor Colgate Darden, were present for the ceremony.

Dedication of New Hospital and Radiology Building.

The dedication of the new hospital and radiology building at the University of Virginia was held on April 14th. President Edgar F. Shannon, Jr., presided at the program. Historical Background was given by Dr. Alfred R. Shands, Jr., Wilmington, Delaware; Future of the Medical Center by Dr. Thomas H. Hunter, Dean of the School of Medicine. The Hospital was dedicated by Colgate W. Darden, Jr., Former President of the University, and was accepted by Dr. Shannon.

The Vincent W. Archer Lecture was given by Dr. H. Bentley Glass, Professor of Biology of Johns Hopkins University. His subject was The Growing Role of Genetics in Medicine.

Dr. Paul D. Camp,

Richmond, has been elected one of the 24 members of the Council of Directors of the Inter-American Society of Cardiology. Council members come from English-Spanish- and Portuguese-speaking countries and are elected for four-year terms.

University Receives Grant.

The Department of Otolaryngology of the University of Virginia School of Medicine has been notified by the United States Department of Health, Education and Welfare that it will be the recipient of a grant of $16,122.00 for the fiscal year 1961-62.

The grant is for the purpose of improving and expanding the training program for the residents preparing to specialize in diseases of the ear, nose and throat. The Department provides a training program for five residents interested in this field.

The money will be used to purchase the newest type of equipment, particularly for use in diagnosing and treating diseases of the larynx and ears. Also the fund will be used to expand the teaching program and to institute a research project.

Dr. F. Preston Titus

Has recently been elected president of the Board of Trustees of the Alexandria Community Health Center.

Drs. James B. Gilbert, John Hoyle, Harrison Picot, John Ransmeier, and S. H. Williams were among those elected to the Board.

Join Staff of Eastern State Hospital.

Dr. Charles Edward Holderby and Dr. George Bernard Massey have joined the staff of the Eastern State Hospital. Dr. Holderby has been practicing in Newport News and Dr. Massey has been at North Tazewell.

Alumni Association.

The Greater Washington Area Alumni Association of the Medical College of Virginia held its annual meeting at the Marriott

Motel on April 18th. Dr. C. Blackwell Smith, president of the College, talked to the group about the tremendous expansion of the College.

Officers elected for the incoming year included: President, Dr. Henry Amiss Hornthal; vice-president, Dr. Grover Starbuck, and secretary-treasurer, Dr. John E. Alexander. Dr. Fred Hines is the outgoing president.

Dr. Victor P. Owen,

Jarratt, has been named director of the Brunswick-Greenville-Mecklenburg Health District. He began his duties on May 1st. Dr. Owen has been in private practice at Jarratt for the past eight years.

Dr. Carpenter Retires.

Colonel George R. Carpenter, Chief of the Preventive Medicine Division of the First U. S. Army Medical Section, retired on April 30th after more than twenty years active service with the Army.

Dr. Carpenter graduated from the University of Virginia School of Medicine in 1934 and was formerly Public Health physician in Fairfax and Bristol-Washington Counties in Virginia. He is a member of The Medical Society of Virginia.

Colonel Carpenter and his wife, the former Clara E. Elliott of Richmond, will make their home in Harrisburg, Pennsylvania, where he is joining the Division of Local Health Services of the Pennsylvania State Health Department.

New Revision of Publication.

The Clinical Center of the National Institutes of Health has just published a new revision of Current Clinical Studies and Patient Referral Procedures. The publication describes briefly the diagnostic requirements, purposes and methods of those studies expected to be most active during the current year.

Consideration for admission to the Clinical Center is restricted to individuals referred by their own physician and, on the basis of a summary provided by referral, judged by the appropriate NIH investigators to have a particular kind and stage of illness or other condition required in one or more clinical studies.

Physicians desiring to receive a copy of the publication should write to Dr. Jack Masur, Director of the Clinical Center, NIH, Bethesda 14, Maryland.

American Cancer Society.

The 1961 Scientific Session of this Society will be held at the Biltmore Hotel, New York City, October 23-24.

For further information, write to the Professional Education Section of the American Cancer Society, 521 West 57th Street, New York 19.

Heart Association Grant.

The Virginia Heart Association and its chapters have made a grant of $40,000 to the Medical College of Virginia for the establishment of a Chair of Cardiovascular Research. This grant is for salary, equipment and supplies for the initial two-year period and the College will contribute a minimum of $5000 a year. The joint agreement is for a two-year period with the possibility of its continuance from year to year.

The Heart Association is providing this research grant in order to assist the College in increasing its capacity to do heart research, to train more young men in research, and to stimulate research and teaching in the cardiovascular field by others at the College.

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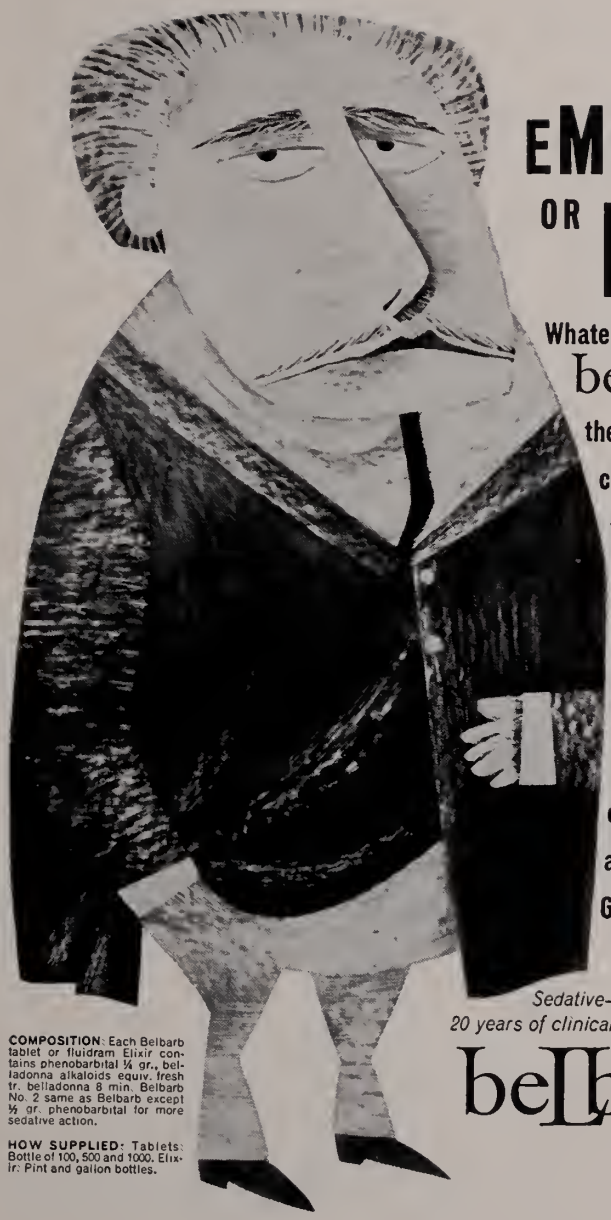

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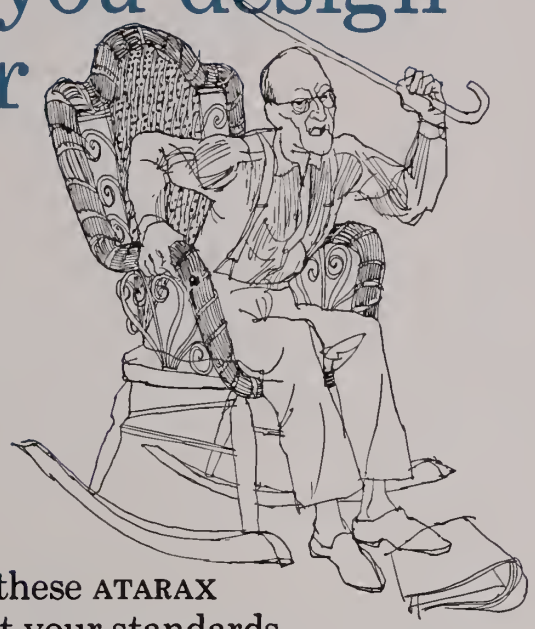

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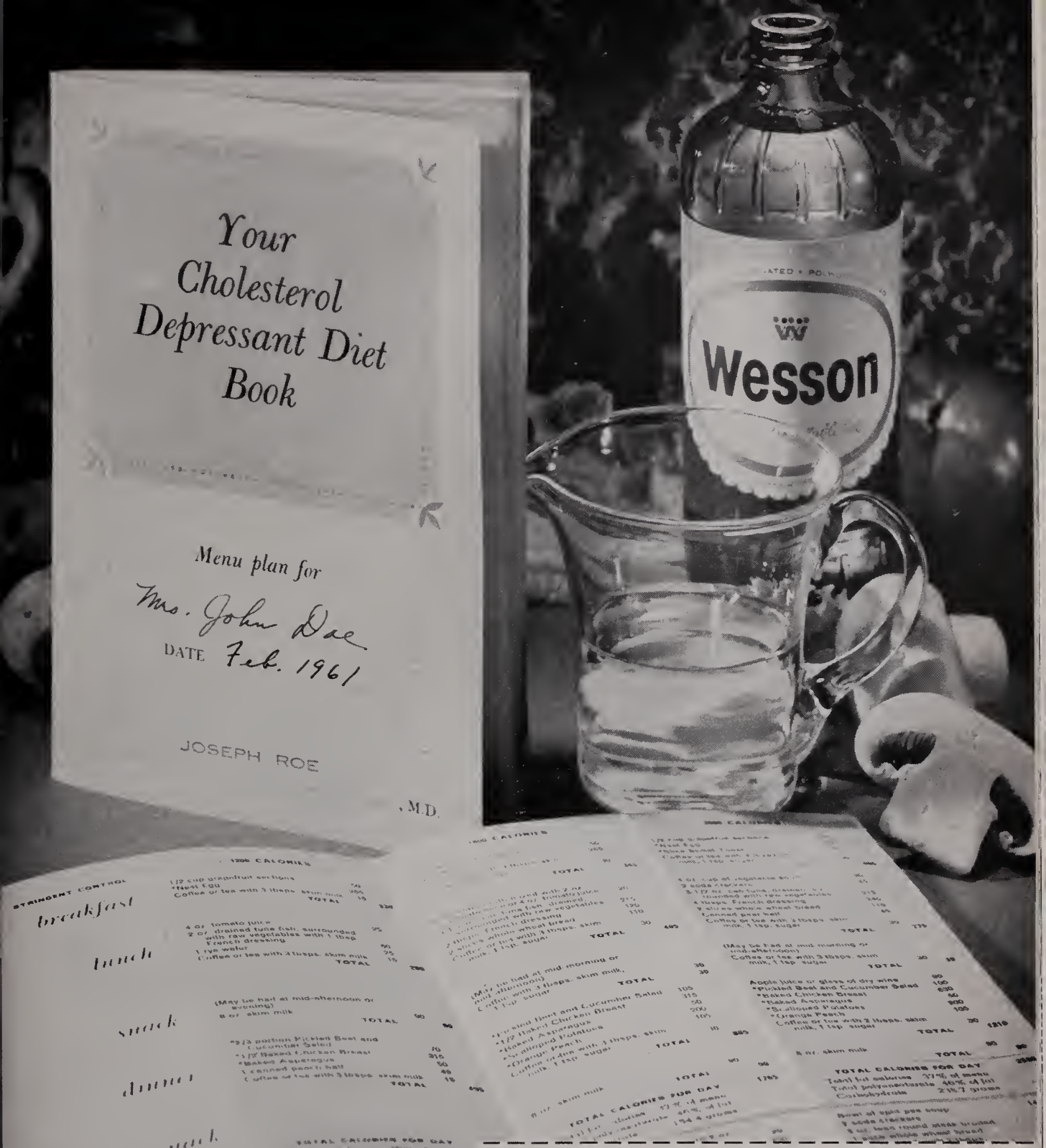

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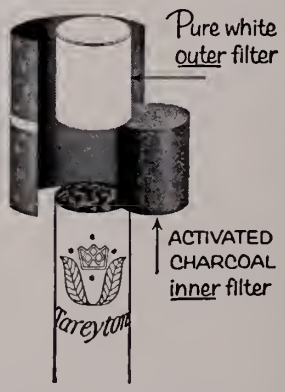

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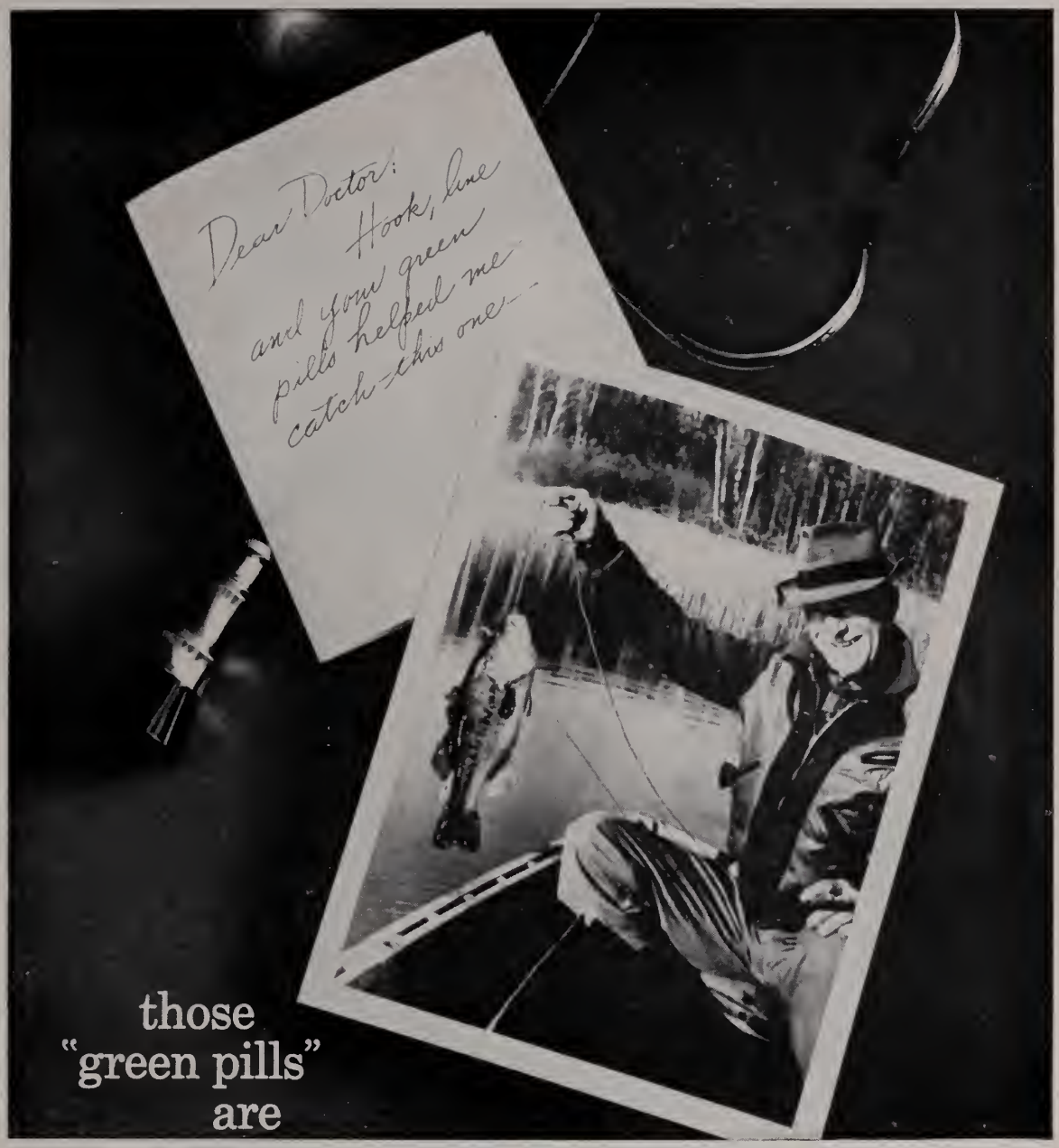

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1. Ford, R. V.: "Human Pharmacology of a New Non-Mercurial Diuretic: Benzthiazide," Cur. Ther. Research, 2:51, 1960.

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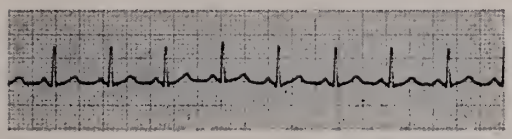

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Wednesday, June 14, 1961
The Schine Inn

CHEYENNE, WYOMING
Monday, July 24, 1961
The Plains Hotel

McALESTER, OKLAHOMA
Saturday, July 29, 1961
The Aldridge Hotel

SEATTLE, WASHINGTON
Saturday, August 5, 1961
The Olympic Hotel

KANSAS CITY, KANSAS
Friday, September 15, 1961
Battenfeld Memorial Auditorium

TOLEDO, OHIO
Thursday, September 28, 1961
The Commodore Perry Hotel

WICHITA, KANSAS
Wednesday, October 4, 1961
The Broadview Hotel

TRAVERSE CITY, MICHIGAN
Friday, October 13, 1961
The Park Place Hotel

PEORIA, ILLINOIS
Thursday, October 26, 1961
The Hotel Pere Marquette

PROVIDENCE, RHODE ISLAND
Wednesday, November 1, 1961
The Colony Motor Hotel

HARRISBURG, PENNSYLVANIA
Thursday, November 9, 1961
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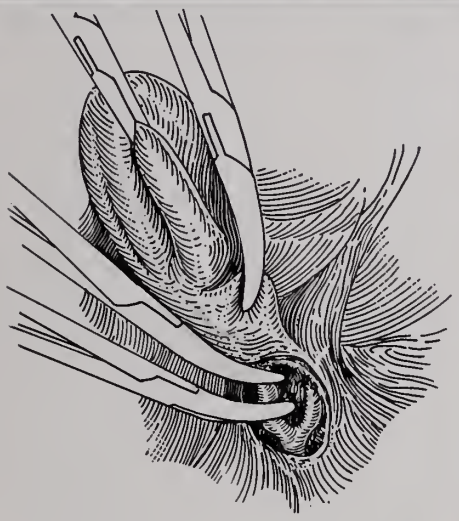

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Source: Farris, J. M., and Smith, G. K.: M. Clin. North America *43*:1133 (July) 1959.

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1. The Composition of Milks, Publication 254, National Academy of Sciences and National Research Council, Revised 1953.
2. Brown, G.W.; Tuholski, J.M.; Sauer, L.W.; Minsk, L.D., and Rosenstern, I.: J. Pediat. *56*:391 (Mar.) 1960.

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